

Model of Change



A Framework for Education in the 21st Century



Forward Thinking, High Achieving.

Missoula County Public Schools
21st Century Initiative
August 2011

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ACKNOWLEDGEMENTS

A wide cross-section of the Missoula community contributed to each component of this 21st Century Plan. Contributions ranged from engaging in the data collection effort to participating in the Community Forums to serving on one of the teams that moved the initiative forward. Constituencies included students; parents; business, community, and civic leaders; and District administrators, teachers, and staff. The 21st Century Plan that follows reflects the needs of the community-at-large, the students, and the educators of MCPS because of each individual's willingness to share a vision of 21st century education and collaborate to define the changes that will need to take place for that vision to be realized.

Participants and their contributions are detailed further in *Appendix K. Participants and Contributions*.

Editor's Note

Without the efforts of many people throughout the Missoula community, this document and subsequent advances in education would not have been possible. Over the year in which the preparation work on this document was completed, PCG consultants met with hundreds of Missoulians. Individuals provided valuable insight and meaningful feedback on their expectations of MCPS and its future graduates, and it has always been the intent to honor all voices. Any misrepresentation and/or omission of expressed ideas are the fault of the project director and report's editor.

We are deeply grateful to those who participated in the development of this plan. They gave untold time and energy to building a plan that represents an unwavering commitment to students and community.

I. INTRODUCTION

Missoula County Public Schools (MCPS), through its *Forward Thinking, High Achieving: 21st Century Initiative*, is positioning its educational community to be among the best in the nation. Missoula's pursuit of excellence, equity, and broad-based involvement has its foundation in its five District goals.

**Missoula County Public Schools
District Goals**

1. Achievement and graduation for all students, regardless of their circumstances and abilities.
2. Refine and implement a quality supervision and evaluation program for all staff.
3. Define and implement a quality professional development program that encompasses best practices and supports the needs of all staff.
4. Restructure the organization to become more efficient, effective, and accountable to support the goals of the District.
5. Cultivate and enhance staff, student, parent, business, and community involvement.

The *21st Century Initiative* is driven by an awareness that the children of Missoula need to acquire and apply skills differently than in the past. The MCPS community-at-large, students, and staff speak to the need for a system of education that more deliberately supports students as they develop the skills and competencies required by the local and global economy that include creativity, critical thinking, communication, and collaboration. The literature about 21st century teaching and learning also supports Missoula's pursuit of a system that is aligned with the economic, political, and social realities of the 21st century.¹

In MCPS, multiple district and community stakeholders are engaged in defining teaching and learning that will prepare its students to be productive and prosperous citizens. This project's data collection and model creation processes provided community members, parents, and staff with the opportunity to participate in self-examination, exploration, and prioritization. They considered what students should know and be able to do to achieve success, as well as how different stakeholder groups facilitate the development of these skills and competencies. Both the what and the how are reflected in the Student Outcomes (*Appendix E*).

Across all stakeholder groups, there is widespread agreement that meeting the needs of all students necessitates the creation of a learning environment that is engaging, reflects the technologies currently available, and capitalizes on the expertise within the District and the community. Ultimately, stakeholders seek an educational system that is responsive to the needs of students and the world in which they will pursue postsecondary education and employment.

Guided by the Student Outcomes, a District-designated team of teachers, administrators, and other staff participated in an action planning process to synthesize, prioritize, and bring greater specificity to the

¹ *Appendix A. Background on 21st Century Teaching and Learning* defines 21st century teaching and learning to a greater extent and provides the rationale for ensuring that the system of education more closely aligns with the skills and competencies required in the 21st century.

ideas generated during data collection and model development. Their work is reflected in the Vision for 21st Century Teaching and Learning, Model of Change, and Roadmap contained within this document.

- The **Vision for 21st Century Teaching and Learning** demonstrates the District's commitment to engage in 21st century teaching and learning to better serve its student population.
- The **Model of Change** prioritizes the work of the District and community stakeholders and fosters goal creation related to their suggestions for changes in procedures, structures, and supports.
- The **Roadmap** consists of goal action maps that detail timelines, persons responsible, resources, implementation steps, and measures of success that support the *21st Century Initiative*.

This document will support MCPS in its efforts to actualize its vision, transition to 21st century teaching and learning, and monitor its progress in achieving its goals. By regularly reviewing the components of the Roadmap, Missoula can continue on its positive trajectory of change.

The goal action maps represent an ambitious and comprehensive initial effort to overcome the status quo. As part of this effort, MCPS should regularly monitor its actions toward implementation, recognize the achievement of intermediate outcomes, and determine the impact of evolving opportunities and challenges. Through reflection, this document can continually serve as the impetus and guide for the District as it experiments and evolves to achieve its goals.

II. VISION FOR 21ST CENTURY TEACHING AND LEARNING

Missoula County Public Schools

Vision for 21st Century Teaching and Learning

We communicate; we collaborate; we think critically; and we create.

We are Missoula County Public Schools — educational leaders in a global society —
fostering uncompromising excellence and empowering all learners.

III. STUDENT OUTCOMES

Determining the desired skills and competencies of students serves as the foundation for a 21st century teaching and learning initiative and includes dimensions of a 21st century student, those behaviors demonstrative of lifelong learning skills, a conceptual base, community and citizenship, and career development.

Missoula County Public Schools
21st Century Teaching and Learning
Student Outcomes
Dimensions of a Student

Lifelong Learning Skills are delineated as the ability to ask questions, think creatively and critically, and communicate effectively in an effort to develop new solutions, while working both collaboratively and independently. In order to be successful in demonstrating lifelong learning skills, students are called upon to continually take initiative and to pursue a course of frequent self-assessment and improvement.

Conceptual Knowledge refers to the basic content knowledge and processes that provide students with a foundation to engage with other content areas, make connections between disparate subjects, and respond to new situations with the appropriate mix of inquiry, creativity, and knowledge. Technology, inquiry, and projects should facilitate the development of this knowledge-base.

Community and Citizenship outline experiences that facilitate the development of a participatory population, including community service learning projects, research and discussion related to issues that are multifaceted in nature, and opportunities to both give and receive constructive feedback. Also outlined are the characteristics that constitute an active citizenry, including understanding of global issues, recognizing diverse values, and identifying the ethical issues inherent in decision making.

Career Development conveys the skills that are required in the world of work and those experiences that enable students to both develop and showcase these competencies. These experiences include internships, professionally-mentored projects, and assessments.

Expectations for Student Learning and Instructor Facilitation
The 4 Cs²

Creativity and Innovation reference students' need to think divergently, make connections, engage in risk-taking (to support the completion of tasks that have not been clearly delineated), and learn from mistakes in a productive manner. Teachers are called on to create the conditions that facilitate creative and innovative behavior, which include entrusting students with their learning to a greater extent, asking open-ended questions to foster discussion, and measuring learning through authentic assessments.

² The 4 Cs were developed by the Partnership for 21st Century Skills, an organization that advocates for 21st century readiness for each student, specifically for their ability to communicate, collaborate, think critically, and create.

Critical Thinking and Problem Solving include the ability to ask questions, examine multiple perspectives and sources, and apply current skill sets in the development of strategies that are formulated to overcome challenges. Teachers support the development of these competencies by exposing students to different viewpoints, providing them with the opportunities to engage in collaborative inquiry, and participating in exploratory discussions.

Communication delineates the need for students to be able to write, speak, and use media effectively and appropriately. Being able to effectively communicate allows students to demonstrate their understanding, respond to particular requests, express ideas, and ask questions. To foster the development of these skills and competencies, teachers should require writing in different contexts, promote small-group discourse, and use questions prominently within their lessons in order to encourage discussion.

Collaboration calls on students to work with one another in pairs, small groups, and large groups. Working with others requires several distinct competencies which include: committing oneself to task completion; recognizing group members as sources of knowledge and support for developing new skills; and, responding to the challenges and opportunities that result from working with peers with divergent views and opinions. Teachers can provide students with the opportunities to develop these competencies by creating collaborative workspaces, encouraging students to take on atypical roles, and demonstrating that students are viewed as important sources of information.

Project work groups referred to these expanded student outcomes as they engaged in discussions of their area of focus. In developing a list of change elements, these work groups considered how a given change element supports the development of the skills and competencies of a 21st century student. They also considered the requirements of a 21st century educator, who is tasked with intentionally providing students with opportunities to cultivate these abilities. The change elements and related goal statements that grew out of work group discussions reflect the student outcomes outlined by the Student Outcomes work group. For more specific details about the Student Outcomes, see *Appendix E*.

IV. MODEL OF CHANGE

The stated goal of this project is to change the ways in which teaching and learning are structured in Missoula County Public Schools, so that they more accurately reflect the globalization and technological advances of the 21st century, as well as ensure the engagement and success of all students. The processes used reflect the systematic ways in which current practices were researched, feedback was solicited, and goals established. These elements come together to form a *Model of Change*. The objective of the model is to identify component goals and actions that will bring MCPS closer to its vision of 21st century teaching and learning.

MCPS seeks to build a new model of education based upon known issues, recognizing that in the future educational institutions must remain much more nimble and flexible to rapidly respond to developments in society, as well as the needs of students. The Model of Change is made up of elements that are very complex and will require multiple years to establish in the educational culture.

These elements are consistent with the future state of education to which members of the Missoula community wish to contribute. To define the future state, stakeholders discussed: *How might MCPS create a 21st century learning experience for students that provides for suitable opportunities upon graduation?* The Model of Change represents those elements that are meant to produce such an education. The MCPS Model of Change has six interdependent components. These change elements are embedded and reflected in the goal action maps (Section V. *Roadmap*).

MCPS Model of Change

- Increase Student Engagement.
- Transform Learning Environments.
- Support Innovators.
- Personalize Professional Growth.
- Enhance Communication.
- Collaborate to Make Decisions.

Increase Student Engagement

In the 21st century, students must feel connected to their learning and be engaged with projects and problems relevant to their world. Students need to see how their academic work applies to their future careers and experience opportunities to be active citizens and leaders in their communities.

Change Element Goal: Educators in every school will connect learning to the real world through authentic and innovative experiences to increase student engagement, motivation, and investment in their learning.

Evidence: Increased opportunities to apply learning in authentic conditions improves student achievement and intellectual and social development while providing practical experiences for the real world (Heller et al, 2003). This approach to student engagement also helps students develop a better sense of the connection between personal effort, experimentation in problem solving, and hypothesis testing. Starratt warns, “learners are forced to make believe that they know what they do not know”

(2005). Traditional teaching, learning, and testing often give students false sense of understanding and lack of understanding. There is also evidence that links student performance to a sense of belonging or connectedness to their learning environment (Quaglia, 2007). Students who enjoy a supportive learning environment in which they connect with their teachers on a personal level feel a sense of affinity for their peers and toward the institution and are willing to take risks in leadership roles. They are more likely to have higher academic and personal aspirations and self-confidence, as well as exhibit excitement and engagement in their work (Plucker, 1998).

2011–12 Recommended Actions:

- Teachers need to understand and value the importance of student engagement and connectedness.
- Students are surveyed for sense of connectedness and teachers use the results to examine practices.
- Engage students through increases in authentic activities.
- Identify and deploy a hub for collecting, sharing, and accessing best practices across the District.

Transform Learning Environments

Improving existing learning environments is a significant part of an overall effort to increase student engagement and achievement. Students need experiences that reflect the worlds of postsecondary education, work, and citizenship in which they will grow and develop through their lifetime. At present, students are often engaged in short class periods that artificially segment related subject areas, do not foster collaboration with peers or outside expertise, and disable students' access to technology.

Change Element Goal: Transform the concept of “school” from a physical place bounded by rigid schedules to a dynamic learning environment supported through emerging technologies, flexible planning and scheduling, repurposed facilities, and community collaboration.

Evidence: Chen asks: “If students need to be knowledge workers, why do we impose on them this lockstep schedule for those critical six or seven years, a schedule they have not encountered before and never will again?” (2010). For learning environments to engender authentic learning experiences, teachers and students require expanded access to resources (e.g., facilities, technologies, community expertise, employers), as well as the flexibility to move beyond the four walls of the classroom and the current schedule.

2011–12 Recommended Actions:

- Create agile learning environments that are readily adaptable to support a wide range of learning styles, groupings, and activities.
- Develop learning environments that expand beyond the traditional classroom walls and strengthen community connections.
- Establish commonalities in schedules for all schools to promote greater flexibility for students.
- Incorporate green and sustainable practices that conserve natural and financial resources in schools' operations and instructional methods.

Support Early Innovators

Innovation begins with state of the art practices. It requires an instructional design perspective that moves the focus in the classroom from traditional “content” to high expectations for all students in areas that are most interesting and relevant to the world in which they live. Early innovators take creative risks in an effort to explore practices beyond the familiar. They recognize the value of experimenting, learning from successes and failures, and collaborating with others. Early innovators of the 21st century model are catalysts for creativity, experimentation, and collaboration.

Change Element Goal: Provide opportunities and support for early innovators to identify, develop, and demonstrate 21st century practices that emphasize authentic learning experiences and increase student engagement.

Evidence: Former American Federation of Teachers president Albert Shanker first proposed the notion of supporting early innovators in education. In the late eighties, Shanker suggested that opportunities be provided to teachers to identify more creative ways to address the issues in education. His vision was schools in which teachers were working at “the cutting edge of research and knowledge, not to replicate what others were doing” (Ravitch, 2010). His concept of early adoption (working at the cutting edge) was not meant to be a free for all, but a problem solving approach in which teachers work together to identify a hypothesis about school change, study it closely in an inquiry model, and contribute to the general understanding of teaching and learning.

2011–12 Recommended Actions:

- Identify and support innovation sites and projects.
- Increase access to technologies for instructional purposes.
- Create the *MCPS Inaugural 21st Century Innovator Conference*.

Personalize Professional Growth

Professional learning is both an individualized and social process of identifying meaning, shaping understandings, transforming practices, and sharing inspiration. Professional learning also helps craft a culture of tinkering, sharing, hacking, remixing, and collaborating that drives craftsmanship and ingenuity as a model for students and peers.

Change Element Goal: MCPS will foster and model a culture of dynamic learning and continuous growth that embraces change with an emphasis on teaching practices that support authentic learning experiences and assessments. The District will support professional learning that provides teachers flexibility to build professional goals related to their areas of interest and needs, and in alignment with MCPS’ 21st century goals.

Evidence: In every industry, leaders give careful consideration to the process of recruiting, inducting, and preserving the best talent possible. The cultivation of talent is dependent on meaningful professional learning opportunities. The model of professional learning in the form of standardized professional development (i.e., staff receive the exact same training at the same time) ignores that

teachers have differing levels of expertise, expectations, and needs in their professional growth. It is sensible to provide teachers with flexibility to develop professionally and draw upon the talents and expertise of colleagues. Tucker suggests from his analysis of teacher quality across the globe that teachers must be people who do research, rather than be the researched (2011). That is, teachers must have the responsibility to drive the process forward rather than wait to see what the system will do to or for them.

2011–12 Recommended Actions:

- Staff will take responsibility for and develop personalized professional growth plans that incorporate 21st century instructional strategies.
- The District and Missoula Education Association will collaborate to develop criteria and a rubric for the six educator standards that can be used for reflection and self-assessment, as well as a basis for refining professional goals.
- Develop learning opportunities that meet individual needs, identified through professional growth goals, and that also support Districtwide systems.

Enhance Communications

The world we live in compels us to be better communicators. In order to succeed and thrive, we must be more collaborative in our overall representation of our work as individuals, schools and District.

Change Element Goal: MCPS will develop, launch, and evaluate communication tools that foster transparent conversation in support of our learners, educators, parents, and community members.

Evidence: When communication and knowledge-transfer within an organization are optimized, members are able to make informed decisions. Open and honest communication enhances transparency by promoting collective problem solving, informed decision making, and greater participation of all stakeholders. Whether this applies to parents who are not informed of their child’s development and sequence of learning; or the student in a classroom who is uncertain of his/her responsibilities; or an educator who receives a mandate for new expectations for instruction – the result of poor communication is always diminished faith and trust.

Schuman’s review of research on transparency suggests that the benefits of open communication should extend beyond the democratic values they represent (2011). Specifically, transparency invites the expertise of a broader community, which has the potential to translate into financial and operational improvements. The vast expertise of the community-at-large can be drawn upon when the business and civics communities are included in conversations related to the public school system. Moreover, Balter notes that “providing some insight into your thinking and considerations” will help others to feel involved and empowered (2007). Open and direct communication supports the ideals of 21st century teaching and learning.

2011–12 Recommended Actions:

- Review existing communication strategies to ensure they are engaging, meaningful, and support the goals of the 21st century model.
- Develop District and Building Communication Plans that identify both traditional and non-traditional (more innovative) strategies for communications, such as social media.
- Develop the infrastructure necessary to support the use of innovative communication tools.
- Engage with community-based organizations to ensure that messaging related to shared initiatives is aligned.

Collaborate to Make Decisions

Collaboration within the learning community yields more creative and supported approaches to “innovating” throughout the education system. When assisting and supporting one another, members of the learning community are able to identify solutions for complex problems. Moreover, collaboration provides opportunities to enable all staff to become leaders.

Change Element Goal: All levels of the organization and community stakeholders are empowered to engage in a collaborative, timely, and efficient approach to decision-making that fosters flexibility, transparency, and innovation.

Evidence: The world is changing more rapidly than ever before. Public school districts are not designed to adapt with comparable speed and often remain paralyzed by bureaucratic structures. Districts do not indiscriminately adopt new strategies but creatively adapt them. Jerald recognizes that the successful implementation of a 21st century teaching and learning system is dependent upon a distributive leadership structure. In adopting a 21st century teaching and learning system, he calls for districts to pursue a “strategy [that] engages stakeholders in building future scenarios based on their own experiences and aspirations, addressing local needs and strengths” (2009). A more distributive leadership model entrusts all staff to engage in the decision making process and provides them with the flexibility to be innovative. Enabling staff to engage in decision-making fosters collaboration, enhances transparency, and results in a district’s best thinking.

2011–12 Recommended Actions:

- Identify structures to support change, 21st century model change elements, and next right steps for each school.
- Adopt and adapt collaboration models that enhance individual and group decision-making.
- Develop and refine organizational processes and procedures, including creative ways to say “yes,” by realigning non-instructional systems to be more inclusive, innovative and supportive of the District goals and the 21st century model.
- Build mechanisms for community partners to work with individuals, schools, and/or the District.

V. ROADMAP

Introduction to 21st Century Goals

Framing each of the goal action maps with guiding questions demonstrates both the collaborative and experimental nature of the work. The question reminds us that “we” are responsible for generating a solution directly tied to the vision statement, “We are....”. Posing a question with several possible approaches to a resolution encourages the divergent thinking that is a critical component of 21st century education. There are specific goals that need to be achieved when enacting the overall vision; therefore, the goal action maps include a guiding question, a goal, rationale, and pathways to implementation.

These maps represent the first year of work and they will be continually reviewed and refined in the coming years as MCPS experiments and its stakeholders evolve as teachers and learners.

Goal Action Map 1

INCREASE STUDENT ENGAGEMENT	
Guiding Question(s)	<p>How might students' sense of self, community, belonging, and purpose increase their level of participation directed toward learning and be reflected in their overall performance?</p> <p>How might opportunities to research and study authentic issues shape students' motivation and commitment to learning?</p>
Goal	Educators in every school will connect learning to the real world through authentic and innovative experiences to increase student engagement, motivation, and investment in their learning.
Rationale (i.e., why this is a prioritized change element)	<p>Student engagement is enhanced by creating an environment in which students feel a sense of belonging, connectedness to their peers and teachers, and the relevance of their academic work. Several conditions including flexibility of learning environment, supportive technologies, and connection to community enhance students' sense of purpose and belonging in school.</p> <p>Students should be involved in discussions about their learning and the importance of enhancing its relevance. MCPS seeks to establish a variety of means by which students can contribute their ideas about what they want to learn and how they can best learn it. Conditions, opportunities, and expectations for success must be similar and of equal quality across all schools.</p>

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Teachers need to understand and value the importance of student engagement and connectedness.</p>	<p>Participants:</p> <ul style="list-style-type: none"> All stakeholders <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Communications Office Graduation Matters Missoula Executive Committee Principals 	<p>Fall 2011:</p> <ul style="list-style-type: none"> District holds a forum during which a representative from each stakeholder group (community member, parent, professional, and student) gives a presentation related to the importance of student engagement from their perspective. These can be posted to the web for future reference. District to follow up the forum with monthly updates (print, web-based) focused on student engagement. Updates will spotlight evidence of student engagement activities. District holds a breakout session during the <i>21st Century Innovator Conference</i> for sharing ideas. 	<ul style="list-style-type: none"> Developed lessons/training in the form of podcasts, videos, newsletters, etc. in which student connectedness is defined and explained; linkages are made between adult practices and student development. 	<ul style="list-style-type: none"> Sharing resources readily available to learn about student connectedness. 	<ul style="list-style-type: none"> Artifacts of learning (newsletters, collected materials from community forums) and web traffic to web resources.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>2. Students are surveyed for sense of connectedness and teachers use the results to examine practices.</p>	<p>Participants:</p> <ul style="list-style-type: none"> All students School-based teams, including staff, students, and community members <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Fall–Winter 2011:</p> <ul style="list-style-type: none"> Students are surveyed using <i>My Voices</i> for a sense of self and connectedness to the school and community. Educators working collaboratively (e.g., in the PLC teams) review data for areas of strength and concern. Educators working collaboratively develop strategies that they agree will increase student connectedness. Educators regularly review progress towards greater connectedness. Following the dissemination of the <i>My Voices</i> climate survey results and the 21st Century Innovation Conference breakout session, buildings will convene school-based teams (staff, students, and community members) to develop plans and outline methods for engaging all students. 	<ul style="list-style-type: none"> Survey and associated reports OPI funding 	<ul style="list-style-type: none"> All schools administer the <i>My Voices</i> climate survey by November 1. 85 % of students, grades 3–12, respond to the <i>My Voices</i> climate survey. 85% of teaching staff participate in discussion related to the <i>My Voices</i> climate survey 	<ul style="list-style-type: none"> Document anecdotal records from survey discussions. Instructional learning plans that attend to student connectedness.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>3. Engage students through increases in authentic activities.</p>	<p>Participants:</p> <ul style="list-style-type: none"> Initially, early innovators and their students; grade-level teams <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Fall 2011-Spring 2012:</p> <ul style="list-style-type: none"> Early innovators identify and implement authentic learning opportunities. <ul style="list-style-type: none"> ➤ They should provide regular reports of proposed and pursued activities with linkages to age-appropriate learning objectives. Early innovators use the PLC structure to share triumphs and challenges along the way and solicit ideas to improve the opportunity. <ul style="list-style-type: none"> ➤ Find ways to invite students into conversation for authentic feedback. Early innovators catalog a description of the authentic learning opportunities with resources, tips for future use, etc. on the designated online tool. <p>Spring 2012:</p> <ul style="list-style-type: none"> Identify capstone project guidelines. District establishes grade-level teams to design parameters. Grade-level teams examine examples of capstone projects/authentic learning 	<ul style="list-style-type: none"> Documentation protocol Community outreach protocol A way in which community organizations might submit their ideas for a project (e.g., collaboration that originates in the community) 	<ul style="list-style-type: none"> Portfolio of authentic learning activities (e.g., Edutopia-like videos demonstrating the many ways in which MCPS is pursuing authentic learning experiences). 	<ul style="list-style-type: none"> Early innovators will meet to share their work quarterly. They will be responsible for developing a repository of the artifacts.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
		<p>experiences.</p> <ul style="list-style-type: none"> Grade-level teams identify outreach strategies to inform and engage community and business organizations on how they can support capstone experiences. Grade-level teams collect input from students to determine their needs, necessary supports, and desired outcomes. Grade-level teams develop a list of project types and associated guidelines. Teachers have the opportunity to provide feedback related to the guidelines. <p>Summer 2012:</p> <ul style="list-style-type: none"> Grade level teams incorporate feedback and finalize guidelines. Grade level teachers meet to lay out the capstone projects for the 2012-2013 (or) 2013-2014 school year. Buildings implement capstone project guidelines in fall 2012. 			

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>4. Identify and deploy a hub for collecting, sharing and accessing best practices across the District.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> • Director of Creativity, Innovation and Technology • Initiative Leadership 	<p>Summer 2011</p> <ul style="list-style-type: none"> • Wiki is deployed for developing English-Language Arts curriculum. <p>Fall 2011:</p> <ul style="list-style-type: none"> • Wiki is used to communicate expanded student outcomes. • District provides staff with guidance related to the purpose of the site and how to use it. <p>Winter 2011:</p> <ul style="list-style-type: none"> • Migrate from using the “y” network drive to a Wiki or other identified resource. 	<ul style="list-style-type: none"> • On-line tool that allows for uploading, sorting, and viewing of resources, including 21st century units, projects, etc. that demonstrate implementation of authentic learning experiences. • Wiki • Documentation that provides guidance on how to use the site and how to upload common media formats (e.g., videos) 	<p>Evidence of usage, as measured by:</p> <ul style="list-style-type: none"> • Uploads to the site (number and growth over time) • Visits and views by others • Feedback from others 	<ul style="list-style-type: none"> • Web metrics (TBD) • During the first six months, a report will be generated monthly to determine the growth of the on-line examples and visitor feedback.

Goal Action Map 2

TRANSFORM LEARNING ENVIRONMENTS	
Guiding Question(s)	In what ways might we create learning environments that are universally accessible and enhance the learning experience for all?
Goal	Transform the concept of “school” from a physical place bounded by immutable schedules to a dynamic learning environment supported through emerging technologies, flexible planning and scheduling, repurposed facilities, and community collaboration.
Rationale (i.e., why this is a prioritized change element)	The 21 st century learner requires increased opportunities to think critically, create, communicate, and collaborate around real world challenges in environments that are models of citizenship in the information age. They need not be bounded by time of day or physical location.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Create agile learning environments that are readily adaptable to support a wide range of learning styles, groupings, and activities.</p>	<p>Participants:</p> <ul style="list-style-type: none"> Principals, teachers, staff, community organizations, and students <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Fall 2011:</p> <ul style="list-style-type: none"> Educate staff on the importance of agile and flexible learning environments. Introduce the concept of a <i>Use of Space Plan</i>. <p>Winter 2011:</p> <ul style="list-style-type: none"> Incorporate the concepts of agile learning environments into building <i>Use of Space Plans</i>. Develop guidelines and a template for the plan to support building work. Buildings convene groups of staff to participate in the development of a <i>Use of Space Plan</i>. Building teams survey the way that space is currently used and solicit feedback from staff and students related to how the space might be better organized. Building teams should also consult the literature to generate ideas. <p>Winter 2011–2012:</p> <ul style="list-style-type: none"> Building teams develop a <i>Use of Space Plan</i>. District develops a <i>Use of Space Plan</i>. 	<ul style="list-style-type: none"> Examples of agile learning environments, both within and outside of Missoula Innovation Team Support from finance and operations to build out financial models that will financially sustain the plans for improving use of space 	<ul style="list-style-type: none"> Proposals (based upon plans) are accepted by the District and/or private funders. 	<ul style="list-style-type: none"> Review assessment from District and/or private funders.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
		<ul style="list-style-type: none"> All building teams meet to partake in a review process – to ensure that each plan is comprehensive and to provide additional ideas related to creative use of space. 			
<p>2. Develop learning environments that expand beyond the traditional classroom walls and strengthen community connections.</p>	<p>Participants:</p> <ul style="list-style-type: none"> Initially, early innovators <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Summer 2011:</p> <ul style="list-style-type: none"> District supports early innovators in identifying community-based organizations and expertise to draw upon. District reviews and revises policies and procedures to support student volunteerism experiences that are safe and meaningful. <p>Fall 2011:</p> <ul style="list-style-type: none"> District supports the implementation of the Health/Science Academy at BSHS. District establishes a Community Connections template to enable each building to catalogue its existing partnerships with community organizations, businesses, etc. Buildings catalogue their existing partnerships and 	<ul style="list-style-type: none"> Community-based organizations Database 	<ul style="list-style-type: none"> Revised policies and procedures Community Connections Template Creation of database 	<ul style="list-style-type: none"> School-community partnerships Informal survey of community-based organizations (especially those that indicated some interest in working with the schools)

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
		<p>comment on their effectiveness.</p> <ul style="list-style-type: none"> • District creates a system for community organizations to indicate interest in partnering with MCPS (e.g., hiring interns, supporting teachers). • District creates a database of community organizations that teachers can partner with. The same database will connect students to service learning opportunities and track activities. <p>Winter–Spring 2012</p> <ul style="list-style-type: none"> • Early innovators are provided with access to the database. • Early innovators and community organizations partner with one another as appropriate. <p>Summer 2012:</p> <ul style="list-style-type: none"> • Early innovators reflect upon the successes of their experiences and identify areas in need of improvement. 			

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>3. Establish commonalities in schedules for all schools to promote greater flexibility for students.</p>	<p>Participants:</p> <ul style="list-style-type: none"> Principals, scheduling work group <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Fall 2011:</p> <ul style="list-style-type: none"> District establishes a scheduling work group. Scheduling work group investigates and designs a common high school schedule for fall 2012. <p>Spring 2012:</p> <ul style="list-style-type: none"> District evaluates outcomes of initial elementary school scheduling outcomes. 	<ul style="list-style-type: none"> Scheduling work group 	<ul style="list-style-type: none"> Schedule for use in Fall 2012 	<ul style="list-style-type: none"> District communicates with staff, students, and parents about the scheduling changes.
<p>4. Incorporate green and sustainable practices that conserve natural and financial resources in schools' operations and instructional methods.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Director of Operations and Maintenance Director of Creativity, Innovation & Technology Principals 	<p>Fall 2011:</p> <ul style="list-style-type: none"> Collaborate to establish an approach to integrate practices into various departments and operations throughout the District. 	<ul style="list-style-type: none"> Recommended practices for conserve resources Opportunities for collaboration so that practices become institutionalized Training for District and building leaderships 	<ul style="list-style-type: none"> Reduced printing and mailing through better use of digital resources Development of guidance on green and sustainable practices Incorporation of green and sustainable practices into <i>Use of Space Plans</i> Sustainable solutions in key areas (e.g., more natural light in classrooms) Increased use of local resources 	<ul style="list-style-type: none"> Review of data Increase in use of electronic (i.e., Internet) resources

Goal Action Map 3

SUPPORT EARLY INNOVATORS	
Guiding Question(s)	<p>How might we support educators who are early adopters and innovators?</p> <p>What examples of practices might we point to when asked, “What does 21st century teaching and learning look like?”</p>
Goal	<p>Provide opportunities and support for early innovators to identify, develop, and demonstrate 21st century practices that emphasize authentic learning experiences and increase student engagement.</p>
Rationale (i.e., why this is a prioritized change element)	<p>Former American Federation of Teachers president Albert Shanker first proposed the notion of supporting early innovators in education in the late eighties. Shanker suggested that opportunities be provided to teachers to identify more creative ways to address the issues in education. His vision was schools in which teachers were working at “the cutting edge of research and knowledge, not to replicate what others were doing” (Ravitch, 2010). His concept of early adoption (working at the cutting edge) was not meant to be a free for all, but a problem solving approach in which teachers work together to identify a hypothesis about school change, study it closely in an inquiry model, and contribute to the general understanding of teaching and learning.</p>

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Identify and support innovation sites and projects.</p>	<p>Participants:</p> <ul style="list-style-type: none"> ERDs, Principals <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership 	<p>Summer 2011:</p> <ul style="list-style-type: none"> Individuals and teams are invited to submit proposals for innovation projects. <p>Ongoing:</p> <ul style="list-style-type: none"> A structured process for supporting innovation projects (including but not limited to action research) will be developed and implemented. Early innovators provide feedback to identify positive characteristics, successes, and struggles. 	<ul style="list-style-type: none"> Rubric on which projects are rated along a continuum between initiating (consistent with early adopters and innovators) and high performing (demonstration site) Decision-making protocol for including projects to avoid a free-for-all. Rubric for consideration of inclusion 	<ul style="list-style-type: none"> Named projects from each school Each project is clearly identified along the continuum, associated with one of the 21st century elements, and has a lead sponsor (could be a teacher, administrator, student, parent, and/or community member). 	<ul style="list-style-type: none"> Public area on Web at which documentation and feedback might be provided.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>2. Increase access to technologies for instructional purposes.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> • Director of Creativity, Innovation & Technology 	<p>Summer 2011:</p> <ul style="list-style-type: none"> • Reduce restrictions on Internet filtering to provide for more seamless access to information, media, and instructional materials. • Introduce an amended cell phone policy that would replace or remove policy 3630 to support the use of devices for instructional purposes. <p>Fall 2011:</p> <ul style="list-style-type: none"> • Update principals and educators about changes in access. • Teachers work with students on acceptable use of technology. <p>Winter–Spring 2012:</p> <ul style="list-style-type: none"> • Review the data on the use of the Internet (sites, frequency, length of time, etc.). 	<p>Review innovative practices in other schools/districts</p>	<ul style="list-style-type: none"> • Policies are changed. • Increase in use of technologies for instruction and learning 	<ul style="list-style-type: none"> • System reports • Teacher self-reports
<p>3. Create the MCPS Inaugural 21st Century Innovator Conference.</p>	<p>Participants:</p> <ul style="list-style-type: none"> • Early innovators and demonstration project sponsors (e.g., principals, community members, students, parents, etc.) <p>Person(s) with Primary</p>	<ul style="list-style-type: none"> • Minimally, this event would happen annually during one of the Districtwide professional development days. 	<ul style="list-style-type: none"> • Venue(s) • A process for submitting proposals and registering for relevant classes (this will be important if the sessions are held at multiple buildings) 	<ul style="list-style-type: none"> • A date is established and lead identified for building the schedule and recruiting speakers. Early innovators and demonstration projects will 	<ul style="list-style-type: none"> • Participation levels will be calculated.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
	<p>Leadership Responsibility:</p> <ul style="list-style-type: none"> • Initiative Leadership 		<p>across the District).</p>	<p>contribute to a day-long conference during which sessions will cover topics most relevant to the professional staff.</p> <ul style="list-style-type: none"> • A program is developed. • High participation 	

Goal Action Map 4

PERSONALIZE PROFESSIONAL GROWTH	
Guiding Question(s)	<p>How might we extend human capacity to support change, embody the 4 Cs (creativity, collaboration, critical thinking and communication), as well as increase job satisfaction, and contribute to the learning of all students?</p> <p>How might we extend human capacity for innovation, creativity, and improvisation to increase effectiveness and satisfaction?</p>
Goal	<p>MCPS will foster and model a culture of dynamic learning and continuous growth that embraces change with an emphasis on teaching practices that support authentic learning experiences and assessments. The District will support professional learning that provides teachers flexibility to build professional goals related to their areas of interest and needs, and in alignment with MCPS' 21st century goals.</p>
Rationale (i.e., why this is a prioritized change element)	<p>Professional learning is both an individualized and social process of sharing inspiration, making meaning, shaping understandings, and transforming practices. Professional learning also helps craft a culture of tinkering, sharing, hacking, remixing, and collaborating that drives craftsmanship and ingenuity as a model for students and peers.</p>

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Staff will take responsibility for and develop personalized professional growth plans that incorporate 21st century instructional strategies.</p>	<p>Participants:</p> <ul style="list-style-type: none"> All educators and staff <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative leadership 	<p>Summer 2011:</p> <ul style="list-style-type: none"> Principals collaborate to develop exemplar goals in each of the six areas of teacher performance; possibly use a trained facilitator to model collaborative approach. <p>Fall 2011:</p> <ul style="list-style-type: none"> Principals work with staff to develop professional growth goals; ERDs work with principals to develop professional growth goals. Staff members identify at least one goal that addresses 21st century practices. <p>Ongoing:</p> <ul style="list-style-type: none"> PLC incorporates the growth plans of teachers. Teachers collaborate and support each other in acquisition of new knowledge and skills. 	<ul style="list-style-type: none"> Guiding document; professional support Skype; webinars; other distant learning opportunities Template for developing personal plan (HOUSSE-like form) that includes space for organized reflection 	<ul style="list-style-type: none"> Teacher Goals 2/3 of staff have completed their first goal statement by spring of 2012; goal statements align with professional learning experiences. 	<ul style="list-style-type: none"> Review of goal statements for evidence of
<p>2. The District and Missoula Education Association will collaborate to develop criteria and a rubric for the six educator standards that can be used for reflection and self-assessment, as well</p>	<p>Participants:</p> <ul style="list-style-type: none"> Teacher Standards & Evaluation Committee <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative leadership and MEA president 	<p>Fall –Winter 2011:</p> <ul style="list-style-type: none"> Committee convenes to begin process for developing criteria and a rubric. <p>Spring 2012:</p> <ul style="list-style-type: none"> Seek employee comments on recommended criteria and rubric. 	<ul style="list-style-type: none"> Teacher Standards & Evaluation Committee (committee is already established) 	<ul style="list-style-type: none"> Rubric implementation 	<ul style="list-style-type: none"> Rubric implementation

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
as a basis for refining professional goals.		<p>Summer–Fall 2012:</p> <ul style="list-style-type: none"> Implement rubric into the evaluation process for teachers. 			
<p>3. Develop learning opportunities that meet individual needs, identified through professional growth goals, and that also support District-wide systems (e.g., SIS, RtI, technology training).</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Principals/Building Leadership teams Initiative leadership 	<p>Fall 2011:</p> <ul style="list-style-type: none"> Determine topics and a calendar for professional development (problem solving action plan). Use technology to deliver learning opportunities. 	<ul style="list-style-type: none"> Technologies to expand learning opportunities (e.g., Moodle; Zangle; Kahn Academy) 	<ul style="list-style-type: none"> PIR catalog Archive of quality professional learning Professional learning opportunities align with professional learning plans 	<ul style="list-style-type: none"> Website/Wiki/media server Participant surveys

Goal Action Map 5

ENHANCE COMMUNICATION	
Guiding Question(s)	How would the entire education enterprise improve through greater transparency of activities?
Goal	MCPS will develop, launch, and evaluate communication tools that foster transparent conversation in support of our learners, educators, parents, and community members.
Rationale (i.e., why this is a prioritized change element)	Enhanced communication helps to ensure that MCPS thrives as the entire community collaborates. It provides a level of openness designed to discourage skepticism by providing people with a means to get and remain involved. Schuman (2011) suggests that organizations should benefit from greater communication by inviting creative thinking towards a more productive organization. In order to survive and thrive, we must be more collaborative in our overall representation of our work as a school and District.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Review existing communication strategies to ensure that they are engaging, meaningful, and support the goals of the 21st century model.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Initiative Leadership Director of Public Affairs Superintendent 	<p>Summer 2011:</p> <ul style="list-style-type: none"> District identifies its existing communication strategies, procedures, resources, and tools. <p>Fall 2011:</p> <ul style="list-style-type: none"> District creates a Communications work group. Work group reviews and evaluates existing District communication strategies. Collaborate with stakeholders (i.e., community, staff, parents, teachers) to determine the District’s communication needs. <p>Winter 2011–2012:</p> <ul style="list-style-type: none"> Work group investigates state-of-the-art communication strategies, procedures, resources, and tools. <p>Spring 2012:</p> <ul style="list-style-type: none"> Work group augments existing communication plan(s) with select communication tools for implementation in 2012–2013. 	<ul style="list-style-type: none"> Communications work group Surveys/discussion protocols to solicit stakeholders’ feedback 	<ul style="list-style-type: none"> 50% of English Language Arts teachers participate in the review through the Wiki. 50% of Budget, Bond, and Levy Committee members are informed through online mechanisms. 	<ul style="list-style-type: none"> Feedback survey

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>2. Develop District and Building Communication Plans that identify both traditional and non-traditional (more innovative) strategies for communication, such as social media.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> • Director of Public Affairs • Superintendent • ERDs • Principals 	<p>Summer 2011:</p> <ul style="list-style-type: none"> • District develops template for developing building communication plans and expectations (e.g., at least two social media tools, quarterly video updates) <p>Fall 2011:</p> <ul style="list-style-type: none"> • District identifies and supports the use of innovative practices and tools (e.g., holding discussion forums online). • District identifies a list of desired communication skills, attributes, and minimum expectations for all employees. • District includes all departments in the development of the District Communication Plan. • Each building ensures a range of stakeholder representation in the development of its plan. <p>Winter 2011–2012:</p> <ul style="list-style-type: none"> • Buildings implement their communication plans. • District provides guidance and training in communication tools to support plans. 	<ul style="list-style-type: none"> • Protocol/template for developing the District and Building Communication Plans 	<ul style="list-style-type: none"> • Participants in the planning process report that the process is highly inclusive. • Building Communication Plans align with the District Communication Plan. • Desired skills, attributes, and expectations are evidenced in District and Building Communication Plans. • Overall, a 20% increase in the number of stakeholders (community organizations, businesses, staff) who actively participate in various communication channels (e.g., Facebook, 	<ul style="list-style-type: none"> • Various departments would be represented in communication plans, including Human Resources, Title I, etc. • Director of Public Affairs (with the support of the Communications work group) reviews the plans.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
				newsletter sign-up, election support.	
<p>3. Develop the infrastructure necessary to support the use of innovative communication tools (e.g., website that hosts all important District information, links to school websites, Twitter, Facebook, Alert Now).</p>	<p>Participants:</p> <ul style="list-style-type: none"> Principals All staff <p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Director of Public Affairs Director of Creativity, Innovation & Technology 	<p>Summer 2011:</p> <ul style="list-style-type: none"> District provides staff with instructions regarding accessing and using Wiki. District identifies and implements a new website platform for the District and schools. District works with building principals in August to prepare them for their coordinating responsibilities. <p>Fall 2011:</p> <ul style="list-style-type: none"> District provides initial training. <p>Fall 2011–Spring 2012:</p> <ul style="list-style-type: none"> Early innovators set up websites. District showcases a different early innovator’s website on the District website each week. <p>Winter 2011–2012:</p> <ul style="list-style-type: none"> Building principals convene study groups to provide a forum for staff to engage in further learning and build their proficiency. 	<ul style="list-style-type: none"> Website platform, go to meeting format, Alert Now, Teaching and Learning Wiki, Moodle, and additional social media platforms. Resources necessary to support multimedia communication across the District. 	<ul style="list-style-type: none"> 100% of teaching staff will have a web presence (a page that provides contact information). 25% of teaching staff will become “early innovators” and adopt the new website platform (using a variety of advanced tools, including video, blogging, class calendar, lessons online) to support instruction (<i>Year 1.</i>) <p><i>By Year 3, all teaching staff will adopt the platform.</i></p> <ul style="list-style-type: none"> Increase use of District web 	<ul style="list-style-type: none"> All teaching staff have their important teaching information on or linked through the District site. Each early innovator staff member will set up a website by May 2012. Feedback forms after training.

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
				platform for sharing and accessing multi-media that engages stakeholders.	
<p>4. Engage with community-based organizations to ensure that messaging related to shared initiatives is aligned (e.g., <i>Best Place Missoula Initiative</i>)</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Director of Public Affairs 	<p>Fall 2011:</p> <ul style="list-style-type: none"> District identifies shared initiatives (e.g., <i>Best Place Initiative</i>) and examines the extent to which initiatives share core goals and common messaging. District meets with identified community-based organizations to discuss communications. <p>Spring 2012:</p> <ul style="list-style-type: none"> District and community-based organizations create strategies for working in concert with one another to advance a given initiative. 	<ul style="list-style-type: none"> List of shared initiatives that is regularly updated 	<ul style="list-style-type: none"> Establishment of Communication Plan for Health/Sciences Academy at Big Sky Publication of <i>Year In Review/21st Century Report</i>. Development of <i>21st Century Initiative</i> Communication Plan (developed with a cross-section of staff) Overall, a 20% increase in the number of stakeholders who actively participate in various communication channels 	<ul style="list-style-type: none"> Data collected through various means (e.g., online survey, questionnaire at public meetings, network traffic, Facebook likes) to gauge interest and effectiveness in cooperation and alignment in messaging.

Goal Action Map 6

COLLABORATE TO MAKE DECISIONS	
Guiding Question(s)	How might we establish open and responsive decision making so that problems can be resolved and good ideas pursued in a timely manner?
Goal	All levels of the organization and community stakeholders are empowered to engage in a collaborative, timely, and efficient approach to decision making that fosters flexibility, transparency, and innovation.
Rationale (i.e., why this is a prioritized change element)	<p>Reducing the levels of decision-making bureaucracy will empower staff to work through the paralysis often associated with waiting for “approvals.” The goal is to make informed decisions based on data and rules, but more importantly, focus on what is in the best interest of student learning.</p> <p>Empowered decision-making means knowing and understanding the need for transparency and to “see into” each other’s classrooms. Share both successes and failures. Reflect, discuss, and revise whenever necessary.</p> <p>Innovation requires an ability to work beyond the boundaries of traditional approaches. It also requires a willingness to collaborate across the educational community around clearly defined goals, as well as a willingness to be flexible and open to change.</p>

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>1. Identify structures to support change, 21st century model change elements, and next right steps for each school.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Begin with District-level budgetary decision makers; then building-level 	<p>Fall 2011:</p> <ul style="list-style-type: none"> Determine priorities from the 21st century model. Review innovative practices in other districts. 	<ul style="list-style-type: none"> Budget documents Processes and protocols for identifying priorities 	<ul style="list-style-type: none"> Systems in place More resource sharing and less duplication of purchases District goals guide budgetary decisions 	<ul style="list-style-type: none"> Districtwide climate survey data Tracking of shared resources through the library system
<p>2. Adopt and adapt models that enhance individual and group decision-making.</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> Superintendent Initiative Leadership 	<p>Summer 2011:</p> <ul style="list-style-type: none"> District trains principals on DuFour model of PLC. Establish collaborative problem solving model (processes and protocols). <p>Fall 2011:</p> <ul style="list-style-type: none"> Establish and invite innovation cadre participants. Host <i>Innovation Cadre "Jam."</i> Hold innovation cadre meetings. Hold PLC meetings focused on convergence of student performance and the 21st century objectives. Form PLCs involving common disciplines, goals, interests, and/or grade levels. 	<ul style="list-style-type: none"> Processes and protocols (see for example IDEO Design Thinking Toolkit) 	<ul style="list-style-type: none"> Artifacts of PLC meetings, including, but not limited to new instructional approaches; problems identified; and solutions attempted. Innovation cadre plans and demonstrates efforts. 	<ul style="list-style-type: none"> Principals will collect evidence of activity at the building leadership level Innovation cadre meetings

What needs to be done?	By whom?	What are the specifics of implementation? What is the timeline?	What resources?	What is the evidence of progress?	How will evidence be collected?
<p>3. Develop and refine organizational processes and procedures, including creative ways to say “yes,” by realigning non- instructional systems to be more inclusive, innovative, and supportive of District goals and the 21st century model (e.g., budgeting, hiring, professional learning, supervision and evaluation, technology and curriculum implementation, purchasing, operations and maintenance)</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> • Superintendent • Initiative Leadership 	<p>Fall–Winter 2011:</p> <ul style="list-style-type: none"> • Create structures that require cross division teams to address issues (e.g., representatives from each constituency are a problem-solving team). • Establish attributes for new hires. • Re-imagine traditional negotiation model and begin a problem solving approach to contract negotiations. 	<ul style="list-style-type: none"> • District policies and procedures, District and school handbooks, Administrative Procedures Handbook • District wide climate survey used to evaluate, modify, and adjust practice • Project management, work flow software • Business management software • Expenditure request and tracking software that links directly to District goals 	<ul style="list-style-type: none"> • Evidence of collaborative problem-solving across silos • Systems in place • More resource sharing and less duplication of purchases • District goals guide budgetary decisions. • Revised policies and procedures are incorporated into District and school handbooks and Administrative Procedures Handbook. 	<ul style="list-style-type: none"> • Artifacts (e.g., forms completed by problem-solving teams) • Annual audit that shows connection between District goals and expenditures. • District wide climate survey data • Tracking of shared resources through the library system
<p>4. Build mechanisms for community partners to work with individuals, schools, and/or the District (e.g., Chamber of Commerce, Montana University System, Missoula Education Foundation, and many others).</p>	<p>Person(s) with Primary Leadership Responsibility:</p> <ul style="list-style-type: none"> • Director of Public Affairs • Initiative Leadership 	<p>Ongoing</p>	<ul style="list-style-type: none"> • Community experts • <i>Graduation Matters</i> Missoula Initiative • Centralized tool for documenting • Volunteers and hours • Online tool to connect students with service opportunities 	<ul style="list-style-type: none"> • Evidence of increased non-traditional resources, such as volunteers, materials, equipment, financial support, time, workplace learning opportunities, expertise, etc. 	<ul style="list-style-type: none"> • Annual report to the community on student experiences that could not happen with District resources alone • Data from centralized volunteer tracking tool • Data from online tool that connects students with service opportunities

VI. MAINTAINING MOMENTUM

Broad participation of key stakeholders (e.g., school personnel, students, parents, and community representatives) is central to the successful pursuit of the *21st Century Initiative*. Positive outcomes require open communication, collaborative problem solving, and innovative design. These fundamentals were applied in the development of the 21st Century Plan to pursue 21st century teaching and learning. The planning is only the beginning of a much more complex process. The plans that emerged provide clear guidance around shared goals that were established as a result of the entire MCPS team coming together to establish and pursue a vision of the future.

Goal action maps address the immediate steps of school change. Systemic change occurs over time as the organization remains vigilant about its goals and outcomes: enacting the goal action maps, revisiting opportunities and challenges, reflecting upon outcomes, and modifying plans to best achieve those outcomes.

Regular Reflection and Problem Solving

Accomplishing goals that focus on empowered decision making, shared leadership, and open communication is critical in maintaining a project's momentum. Still, at any given time, progress is likely to face the realities of established organizational cultures. In order to maintain momentum, MCPS will continue to engage stakeholders including students, parents, staff, and community in the powerful, intentional reflections, and problem solving that comes from collaboration. Stakeholders will:

- Monitor attainment of project goals.
- Debrief progress of site-specific projects.
- Collaborate across schools and community organizations to solve problems and share ideas.
- Prepare for expansion of goal action maps.

MCPS Inaugural 21st Century Innovator Conference

An MCPS conference of 21st century practices and collaboration will serve as a fundamental tool for establishing the expertise locally and in the professional support of educators. An annual conference will create a forum for wide distribution of instructional ideas and practices. By the end of such a conference, educators will have ideas that they can apply in their own schools and classrooms. They will be empowered to develop site-based action steps for pursuing the expansion of 21st century practices in service of the larger goals.

Active, On-going Efforts

Maintaining momentum is dependent upon active planning, enacting, communicating, reviewing, and revising. The term **active** is used intentionally to demonstrate that planning is not an activity fixed in time or completed with a document such as this one. Planning must be something that is constant.

Enacting a plan is an intentional set of steps. Educators recognize that the adoption of materials is not the same as enacting a new curriculum. Reorganizing curriculum delivery requires fidelity of implementation, reflective thought, and action-oriented review with colleagues. It requires an inquiry process in which changes are made to reflect what educators learn along the way.

Most important to the success of maintaining momentum is broad and regular communication. The more frequent and open communications are, the more the education community can hold itself accountable, be supportive in the endeavors, and mitigate misunderstandings. Key steps in which communication can be used to support momentum include:

1. Make certain that the plan is a public plan.
2. Communicate and report on progress.
3. Support school-based action planning.
4. Invite family and community involvement.
5. Connect the plan to other school-based initiatives.

Monitoring Progress

Timelines for each of the goal action maps facilitate movement on each of the action steps within a reasonable time period. Timelines ensure that progress monitoring remains an active and on-going process, so that reflection and problem solving takes place at regular intervals. Related activities are organized as follows:

- ***Unveiling the 21st Century Model***
The District will facilitate events in the 2011—2012 school year to introduce the plan to previously involved stakeholders and the larger community.
- ***Engaging in Regular Inquiry and Progress Reporting***
Throughout the District, there should be ongoing conversations related to the progress of actions identified in the goal maps. The larger education community should be provided with frequent, focused, and specific updates about progress on the initiative.
- ***Building District Capacity***
MCPS should support these conversations by building the capacity of its staff to regularly participate in collaborative inquiry to enhance their teaching and learning practices. Similarly, the community-at-large should continue to engage in discussions related to how they can advance the 21st century goals.
- ***Reexamining the 21st Century Plan Annually***
MCPS should annually reexamine the District 21st Century Plan, and the current realities of the local conditions, to determine the degree to which goals have been attained and identify new actions steps and/or goals.

Table 1. Monitoring Progress in Year 1 (In Development as of June 30, 2011)

Missoula County Public Schools, Missoula, MT

Finalizing and Unveiling the Plan

1. Initiative leadership finalizes and begins implementation of the goal action maps.	Summer 2011
2. Initiative leadership accepts proposals for innovation projects from early innovators willing to engage in the definition and demonstration of 21 st century teaching and learning.	Summer 2011
3. Initiative leadership selects the initial cohort of early innovators.	Summer 2011
4. Initiative leadership supports early innovators in identifying community-based organizations and expertise to draw upon.	Summer 2011
5. MCPS posts the 21 st Century Plan on the District website.	August 2011
6. Initiative leaderships works with building principals to prepare them for their responsibilities as related to communicating the plan and supporting the use of innovative communication tools.	August 2011
7. MCPS introduces the 21 st Century Plan to staff and to the community-at-large.	August 2011

Engaging in Regular Inquiry and Progress Reporting

1. Initiative leadership holds a kick off meeting to establish its goals, set agendas going forward, and establish meeting norms.	September 2011
2. Initiative leadership meets to: <ol style="list-style-type: none"> a. Monitor attainment of project goals. b. Determine if goal maps need to be reconfigured. c. Debrief progress of site-specific projects. 	October 2011— June 2012 (monthly)
3. A smaller subsection of the Initiative Leadership meets more regularly to engage in the work of accomplishing the goals for which they are held accountable.	September 2011—June 2012 (weekly)
4. Initiative leadership meets with principals on a monthly basis to: <ol style="list-style-type: none"> a. Discuss progress of project goals. b. Debrief progress of site-specific projects. c. Collaborate across schools to solve problems and share ideas. 	September 2011—June 2012 (monthly)
5. PLCs regularly discuss the convergence of student performance and the 21 st century objectives.	September 2011—June 2012 (<i>frequency TBD</i>)
6. Teams of early innovators hold innovation cadre meetings to share the triumphs and challenges related to early adoption.	September 2011—June 2012 (monthly)

Table 1. Monitoring Progress in Year 1 (In Development as of June 30, 2011)

Missoula County Public Schools, Missoula, MT

Engaging in Regular Inquiry and Progress Reporting (continued)

7. A designated member of the Initiative Leadership and selected early innovator provide the Board of Trustees with regular progress reports related to the <i>21st Century Initiative</i> .	September 2011—June 2012 (monthly)
8. Each principal configures a school-based leadership group and meets with the group to: <ul style="list-style-type: none"> a. Discuss progress of project goals at a school-level. b. Discuss progress of project goals at a district-level (as communicated to principals during monthly meetings with the Initiative Leadership). c. Reflect on progress of site-specific projects, including successes and challenges. 	September 2011—June 2012 (monthly)
9. Each school configures a representative group (school-based leadership group and combined group of early innovators, staff piloting some 21 st century practices, and non-participants) to collaboratively complete <i>Appendix I. School Self-Assessment</i> and thereby measure their progress related to each selected change element.	January 2012; May 2012
Building District Capacity	
1. MCPS develops the infrastructure (e.g., website that hosts important District information, links to school websites, Twitter, Facebook, AlertNow) to manage feedback related to the implementation of the <i>21st Century Plan</i> to: <ul style="list-style-type: none"> a. Enhance stakeholders' familiarity with Web 2.0 tools. b. Engage stakeholders in the process of progress monitoring. c. Encourage stakeholders to share ideas related to what they can do to move the goals forward. 	September 2011—June 2012 (ongoing)
2. Initiative leadership regularly engages in community outreach to: <ul style="list-style-type: none"> a. Provide community members with the opportunity to report on their contributions to the 21st Century Plan. b. Continue to discuss how the community-at-large can support the goals of the 21st Century Plan and serve the needs of the early innovators. c. Introduce concepts of interest to the community-at-large. 	September 2011—June 2012 (ongoing)
3. Provide early innovator applicants not originally selected with support to re-apply.	January 2012—June 2012
4. Initiative leadership develops and hosts a <i>MCPS Inaugural 21st Century Innovator Conference</i> to: <ul style="list-style-type: none"> a. Provide early innovators with the opportunity to report out on their triumphs and challenges. b. Showcase demonstration sites. c. Introduce concepts of interest to the staff. 	Minimally, to happen annually

Table 1. Monitoring Progress in Year 1 (In Development as of June 30, 2011)

Missoula County Public Schools, Missoula, MT

Reexamining the 21st Century Plan Annually

<p>1. Initiative leadership (with the support of other stakeholders) reviews progress monitoring data to facilitate the June reexamination of the 21st Century Plan. Specifically, the Team identifies new and relevant strategic information based on:</p> <ul style="list-style-type: none"> a. Results from the regular scheduled Initiative Leadership meetings. b. Lessons learned from early innovators. c. Results from <i>Appendix I. School Self-Assessment</i> d. Current district realities. 	<p>April 2012–May 2012</p>
<p>2. After the review, the Initiative Leadership (with other stakeholders included as appropriate) meets to:</p> <ul style="list-style-type: none"> a. Evaluate progress toward goal attainment. b. Confirm Vision for 21st Century Teaching Learning. c. Identify additional action steps and/or specifics of implementation to facilitate continued progress. d. Identify new goals and ways for achieving them during the 2012–2013 school year. e. Facilitate necessary revisions to the site-based action plans. 	<p>June 2012</p>

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VIII. APPENDICES

Introduction to the Appendices

The Appendices provide further background information related to the development of the 21st Century Plan and a set of tools to guide the progress monitoring effort. The contents of the Appendices are as follows:

- **Appendix A. Background on 21st Century Teaching and Learning**
Appendix A. defines and provides a rationale for 21st century teaching and learning, as well as the knowledge-building that has taken place over the course of the project to expand stakeholders' understanding of what constitutes 21st century teaching and learning. The initial knowledge-building detailed in this section set the stage for the discussions within each work group and ultimately helped shape the Model of Change.
- **Appendix B. Why is a Plan Necessary for MCPS?**
Appendix B. details the District's rationale for pursuing a *21st Century Initiative* and for engaging in a collaborative planning process. The District recognized that successful implementation of the *21st Century Initiative* was dependent upon community participation and the development of a plan that could serve as the District's roadmap.
- **Appendix C. Summary of Project and Process**
Appendix C. outlines Phase One (*Organizing for Action and Data Collection and Analysis*) and Phase Two (*Vision Formation, Model Creation, and 21st Century Plan Development*). The summary documents the extent to which the process has been an inclusive and collaborative endeavor.
- **Appendix D. Executive Summary of Phase 1 Report**
Appendix D. is the Executive Summary of the Phase 1 Report, which details the data collection effort and the priorities that emerged from discussions across constituent groups.
- **Appendix E. Student Outcomes**
Appendix E. contains the set of student outcomes developed by the Student Outcomes work group. These outcomes include dimensions of a 21st century student, as well as the skills students should demonstrate and how a teacher may facilitate their development.
- **Appendix F. Roadmap's Alignment with District Initiatives**
Appendix F. provides the District with a graphic organizer that demonstrates the connections between existing district initiatives and the 21st century goals—all of which should support the five District goals.
- **Appendix G. Communicating the 21st Century Plan**
Appendix G. provides the District with a template to outline how it plans to communicate the 21st Century Plan to the various District stakeholders.
- **Appendix H. Progress Monitoring**
Appendix H. provides the District with a set of questions that individuals use to reflect upon their own practices and determine their progress toward goal attainment. Following individual reflection, peer teams may use these questions to foster continuous improvement.

- **Appendix I. School Self-Assessment**

Appendix I. provides the District with a school-level progress-monitoring tool. Schools will use the tool to measure their progress related to each selected change element.

- **Appendix J. What Does This Mean for Me?**

Appendix J. provides the District with a set of guiding questions that will give members from each stakeholder group the opportunity to detail what he/she might do to help move a goal forward and then reflect upon his/her contributions. Affording each stakeholder with the opportunity to consider how he/she will individually contribute to the advancement of a goal demonstrates that the *21st Century Initiative* is a community-wide effort.

- **Appendix K. Participants and Contributors**

Appendix K. acknowledges the various constituencies that participated in the data collection, model creation, and 21st Century Plan development.

Appendix A. Background on 21st Century Teaching and Learning

America's public schools seek to provide all students with an education that is marked by excellence and equity. Many schools and districts across the country have made great strides in creating engaging learning environments that foster student achievement while meeting the needs of all students.³ Yet, despite significant efforts on the part of policymakers, administrators, and teachers, public education as a whole does not provide all students with the skills and competencies necessary for success in postsecondary education and employment. Instead of systemically responding to the social, economic, and political changes that mark the 21st century, education largely retains its 19th century design. As a result, the United States has not kept pace with the educational attainment and achievement levels of many other nations, and has in fact fallen behind (Harvard Graduate School of Education, February 2011). Whereas "thirty years ago, the United States ranked 1st in the quality of its high school graduates, today it is 18th among twenty-three industrialized nations" (National Center for Education and the Economy, 2006). Key to achieving excellence in our schools is a focus on 21st century teaching and learning.

Defining 21st Century Skills and Competencies

Ensuring students' success requires that we define the skills and competencies reflective of *quality* in the 21st century. 21st century skills and competencies encompass core knowledge, the application of core knowledge, and the 4C's (critical thinking, creativity, collaboration, and communication).

Core Knowledge

The development of 21st century skills and competencies depends upon students acquiring **core knowledge**. The need for a solid foundation in reading, writing, and mathematics cannot be displaced. Content knowledge should be offered in multi-faceted ways so that our students simultaneously develop a broad set of skills and competencies. Craig Jerald advocates: "Applied skills and competencies can best be taught in the context of the academic curriculum, not as a replacement for it or 'add on' to it; in fact, cognitive research suggests that some competencies like critical thinking and problem solving are highly dependent on deep content knowledge and cannot be taught in isolation." (July 2009)

Application of Core Knowledge

For the full benefits of core knowledge to be realized, students need to be able to demonstrate higher-order thinking skills and apply their learning. Since many of the challenges that our children will face in the 21st century do not have clearly defined answers, recall will not serve students well in the roles of student, employee, citizen, and consumer. Rather, success in any of these domains depends upon the ability to **analyze**, **synthesize**, and **evaluate** core knowledge when faced with a novel situation.

³ For a selection of schools and districts pursuing 21st century teaching and learning practices, see Partnership for 21st Century Skills' Route 21 (<http://www.p21.org/route21/>) and Edutopia (<http://www.edutopia.org/>).

Critical Thinking, Creativity, Collaboration, and Communication

Employers have identified a set of broad competencies that are necessary to fully engage in work that demands analysis, synthesis, and evaluation. These include the 4 Cs developed by the Partnership for 21st Century Skills: critical thinking, communication, collaboration, and creativity.⁴

- **Critical thinking** is essential as students are expected to both identify and confront problems that are local, national, and global in scale with neither a single nor a prescribed solution.
- The ability to relate well to others, cooperate, resolve conflicts, and acknowledge alternate viewpoints—all attributes of an effective **collaborator**—are indispensable in the world of work.
- Workers need to be able to **communicate** across corporations, sectors, time zones, nations, and cultures. Communication requires an individual to clearly articulate his/her viewpoint and help move conversations forward through effective and focused participation.
- Problem solving is an exercise in **creativity** that requires its participants to integrate knowledge across silos, combine existing patterns in unique ways, and originate new ideas.

The Challenge

While there is widespread agreement that 21st century skills and competencies are critical to success in today's world, our graduates are far from highly skilled in these areas. As reported by the Harvard Graduate School of Education, "Increasingly, U.S. employers complain that today's young adults are not equipped with the skills they need to succeed in the 21st century workforce" (February 2011). The report, *Are They Ready to Work?*, maintains that "far too many young people are inadequately prepared to be successful" (Conference Board, 2006). In particular, a majority of employers surveyed by the Conference Board point to oral and written communication skills as both highly important and significantly lacking, particularly—though not singularly—in high school graduates.⁵ College officials similarly hold that many of their incoming students do not have the required skills and do not attain success, as demonstrated by enrollment in development coursework and college completion rates.⁶ High school graduates by and large do not disagree with these perceptions, as "40 to 45% of recent high school graduates report significant gaps in their skills, both in college and the workplace" (Achieve, Inc., 2008).

⁴ "In 2006, the Conference Board surveyed 431 employers about the skills they believed most important for new entrants to succeed in the workplace...The results showed that while employers still view basic skills like reading comprehension to be fundamental to success on the job, some broader competencies – such as the ability to communicate, collaborate, think critically, and solve problems – are considered even more valuable" (Jerald, July 2009).

⁵ 81% of employers indicated that high school graduates are deficient in written communications, whereas 47% and 28% of 2-year college graduates and 4-year college graduates are deficient, respectively. 53% of employers indicated that high school graduates are deficient in oral communication, whereas 21% and 10% of 2-year college graduates and 4-year college graduates are deficient, respectively.

⁶ Nationally, nearly 60 percent of students need to take development education—essentially, remedial studies—when they arrive at community college (Adams, May 2011). Further, only 56 percent of those enrolling in a four-year college attain a bachelor's degree after six years, and less than 30 percent of those who enroll in community college succeed in obtaining an associate's degree within three years (Harvard Graduate School of Education, February 2011).

Characteristics of a 21st Century Teaching and Learning Environment

How can we create a teaching and learning system that fosters the development of these 21st century skills? Several areas of focus are critical for administrators, teachers, and researchers to consider as they seek to answer this question. They include personalized learning, the use of technology, an expanded definition of “educator,” the time and place of learning, structures for the delivery of learning, and the measurement of learning.

Personalized Learning

Personalized learning is an important aspect of 21st century teaching and learning. Neurological research supports the development of a teaching and learning system that is **tailored to the needs of individual students and reflective of multiple intelligences**.⁷ Because each human brain is wired differently, students comprehend knowledge at different times and at different depths, a fact that is at odds with the uniformity of public education.⁸ Achieving educational excellence and equity requires a teaching and learning environment that addresses the needs of each student rather than treats them as a single unit. The Partnership for 21st Century Skills confirms the need for schools to “more effectively incorporate advances in learning science into instructional practice” and create a more student centered learning environment” (October 2007).

Use of Technology

A student-centered approach demands a **shift in the current use of technology**. Technology will not in and of itself create a 21st century teaching and learning environment. If used intentionally to support learning, technology provides teachers with a tool to determine students’ needs and serve them accordingly, as well as to prepare students to be critical consumers of online information. It also enables teachers to draw upon the vast expertise of their students. As digital natives, students have vast knowledge of the capacity of technology to support learning. Tapping into their expertise both enhances the learning experience and empowers students by allowing them to take on a more active role in the classroom.

Expanded Definition of “Educator”

Chen asserts: “The days of being the sole source of knowledge and authority in the classroom are over, way over” (2010). The 21st century calls for community experts, employers, and parents to **share the role and responsibilities of educator**. By bringing community experts into the classroom, students receive a more complete picture of the topic under discussion. McCain points to the benefits these experiences afford students: “Placing course content in the context of a real-world scenario helps a student remember specific details of a lesson because the context gives the information meaning” (2005).

⁷ Gardner’s multiple intelligences theory identifies eight multiple intelligences, including linguistic, logical-mathematical, spatial, interpersonal, intrapersonal, musical, bodily-kinesthetic, and naturalist.

⁸ Medina indicates that one “can either accede to it [that all brains are wired differently] or ignore it. The current system of education chooses the latter, to our detriment” (2008).

Employers similarly support teaching and learning in the 21st century, both in helping set the standards of study and in providing expanded opportunities for learning to be linked to work. The public school system should “elevate the importance of relevant work experience in a successful transition from adolescence to adulthood” (Harvard Graduate School of Education, February 2011). Providing students with opportunities to engage in the world of work serves students and employers alike. Students are given a real world context for their learning and a forum to develop 21st century skills, whereas employers have the chance to prepare the next generation of workers. To fully advance learning in the school, community, and workplace, schools must partner with parents so that they are apprised of the teaching and learning process and support it accordingly.

Time and Place of Learning

For community-based experiences to be possible, the **learning environment needs to be altered**. School is currently driven by a 50/6/5/180 schedule that is at odds with both the ubiquity of learning resources and research pointing to the summer learning loss.⁹ Fifty minute class periods create unnecessary road blocks to interdisciplinary study, team teaching, and experiential learning. The short episodes of instruction reinforce a teacher-centered classroom that artificially divides subjects and disconnects teachers from available expertise both within and outside of the building. To create a more student-centered learning environment, “the school day need[s] to be redesigned to include more learning time beyond the school day, including summers, but also a different kind of learning, anchored in high standards and authentic curricula and utilizing technology, the Internet, and community-based experiences” (Task Force on Time, Learning, and Afterschool, 2007).

Structures for the Delivery of Learning

Effective learning delivery includes **focusing on depth of content rather than breadth**, as well as **connecting disciplines rather than artificially dividing them into subject areas**. Connecting disciplines enhances creative problem-solving skills by preparing students to use content from seemingly disparate areas. It also enables teachers to draw upon their colleagues’ expertise and facilitate deeper learning experiences for their students. Teacher collaboration simultaneously provides teachers with a richer professional experience, as educators are provided with a forum to showcase their knowledge and learn from their fellow educators. Educators become “pedagogical experts sharing their own pedagogical inventions with peers, subject to questioning, critique, and revision” (Darling-Hammond and Sykes, 1999). Ultimately, engagement in professional inquiry enables educators to share, reflect upon, and improve their practices.

Measurement of Learning

Altering how learning is delivered also requires **redefining how learning is measured**. Authentic assessments need to be developed to measure student performance more deeply and assess the skills deemed critical in the 21st century. A range of stakeholders have articulated that “college students, workers, and citizens must be able to solve multifaceted problems by thinking creatively and generating

⁹ Alexander (2007) found that the learning loss in low-income children is cumulative throughout elementary school. By freshman year of high school, the summer learning loss accounts for two-thirds of the achievement gap between less affluent and more affluent students.

original ideas from multiple sources of information—and tests must measure students’ capacity to do such work” (Silva, November 2008).

Organizing for 21st Century Teaching and Learning

Organizational Flexibility and Adaptability

While altering practices, policies, and procedures to create a more student-centered learning environment is critical, doing so will not, in and of itself, create a 21st century teaching and learning system. To address the speed with which change transpires in today’s world, a 21st century teaching and learning system must have organizational structures in place that **adapt and communicate with comparable speed**. This requires a shift to a culture in which the organization’s participants are more flexible and receptive to innovation.

Organizational Accountability

In order to attain the caliber of leadership, instruction, and collaboration necessary in the 21st century, an organization must also **submit to standards of accountability**. By holding itself accountable, an organization fosters the commitment and information-sharing that is necessary for continuous progress monitoring. Through regular individual and group reflection, the organization becomes better-equipped to pursue the modifications associated with exemplary performance. In coupling flexibility with accountability, an organization is well-positioned to adopt the characteristics of a 21st century teaching and learning environment.

Conclusion

Deliberately creating a 21st century teaching and learning environment requires an organization to determine the skill and competencies required of today’s citizens, consumers, students, and employees. Upon the identification of these 21st century skills, practices, policies, and procedures must be examined and altered to facilitate development. In the process of pursuing these modifications, participants need to cultivate the structures necessary to promote a 21st century teaching and learning system that is open to future changes.

Appendix B. Why Is a Plan Necessary for MCPS?

Missoula County Public Schools, through its *Forward Thinking, High Achieving: 21st Century Initiative*, demonstrated its willingness to be in the forefront of American education by responding to the demands of the 21st century. As detailed in *Appendix A. Background on 21st Century Teaching and Learning*, current economic, political, and social realities require all students to reach high levels of career preparedness; work collaboratively in teams; use technology; gain more sophisticated reading, writing, and presentation skills; and engage in creative and critical thinking. While the required skill set for the 21st century is well-documented and disseminated, the system of education has not changed accordingly to educate, engage, and prepare all students to graduate college and be career-ready. MCPS chose to step forward to make certain that its K-12 educational program prepares all students to succeed both in life and the world of work.

When district leadership sought a third party to facilitate the development of a 21st century teaching and learning system, they determined that the pursuit of a 21st century initiative advances district goals, as related to:

- Improving student achievement and graduation
- Supporting and evaluating staff
- Capitalizing on best practices
- Restructuring the organization to become more efficient, effective, and accountable
- Enhancing stakeholder involvement in the system of education.

Creating a more engaging teaching and learning environment was also positioned as supporting the District's high expectations, as codified in *Graduation Matters Missoula* and *Academic Achievement*, namely that "[its] students graduate fully prepared for post-secondary education, the world of work, and citizenship in a democratic society" (MCPS, March 2010). The leadership spoke of the urgency with which the District must act. The impetus for action was, and continues to be, driven by several factors, including greater competition within the educational domain (e.g., charter schools, distance learning); the need to more deliberately support students to develop the skills and competencies required by the local and global economy; and the moral imperative to meet the needs of all students, not only those who have learned to succeed within the current system.

MCPS recognized that any district undertaking required the involvement of the community, as the community has proven integral to the success of schools in past efforts and has consistently expressed a desire to be provided with opportunities to more intentionally support the school system. Mayor John Engen corroborated this point, stating that when the District leadership determined that the pursuit of a 21st century initiative was in the best interest of the community, the District embarked on this undertaking with significant community support. Similarly, the District recognized that its greatest asset was its staff, and acknowledged that their work ethic, expertise, and best thinking contribute to the current success of MCPS and are critical to further improvements. The District stressed that developing a new 21st century model of teaching and learning requires seeking input from across stakeholder groups; incorporating multiple perspectives; and providing constituent groups with varied opportunities to participate in the process. Consequently, a range of stakeholders (i.e., staff, students, parents, and the

community-at-large) engaged in the data collection and model development processes to discern the range of supports already in place, identify District priorities, and offer research-based suggestions for changes in procedures, structures, or otherwise. The participatory nature of the processes resulted in a vision that is reflective of the needs of the students and the community.

District leadership also recognized that a 21st Century Plan was critical to the success of its 21st Century Initiative and early on called for “a research-based, master plan for 21st century schools and model programs” (MCPS, March 2010). They acknowledged that a roadmap clearly detailing goals, implementation strategies, and related action steps was required for the District’s 21st century teaching and learning vision to be actualized. In response to the District’s call for a clear roadmap, a District-designated Action Planning Team delineated timelines, persons responsible, resources, implementation steps, and measures of success to bring the required specificity to the action steps. Ultimately, the 21st Century Plan will support MCPS in its efforts to actualize its vision and to transition to 21st century teaching and learning.

Appendix C. Summary of Project and Process

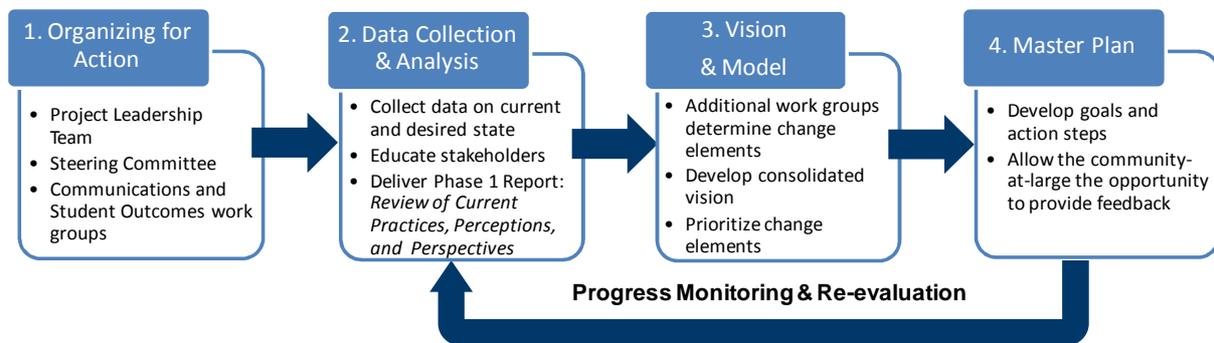


Figure C1. Summary of Project and Process

The project was composed of two phases.

Phase One: Organizing for Action and Data Collection and Analysis.

A Project Leadership Team was established to bring greater clarity to the 21st Century Initiative and to provide general oversight. The data collection effort provided staff, students, and the community-at-large the opportunity to participate in an inclusive process, in which they discussed the current state of education in Missoula and shared their ideas about what constitutes 21st century teaching and learning. PCG Education consultants analyzed and synthesized the resulting data.

Phase Two: Vision Formation, Model Creation, and 21st Century Plan Development.

PCG Education facilitated the development of a unified vision of 21st century teaching and learning for MCPS and facilitated the creation of a 21st century model for the District through a process in which work groups examined themes and priorities that emerged from the data gathered in Phase One. Based upon the goals defined by the work groups and the changes specified by the model, PCG Education worked with the District to create a 21st Century Plan in support of 21st century teaching and learning.

In **Phase One**, PCG Education worked in concert with MCPS to engage as many stakeholders as possible in discussions regarding:

- The current state of teaching and learning in MCPS
- What students should know and be able to do
- How staff, parents, and the community-at-large can facilitate the development of these skills and competencies

During this phase, particular efforts were made to engage representatives of the community to ensure that multiple perspectives were reflected. MCPS offered a range of opportunities for individuals to share expectations for a 21st century education. Through membership in the Steering Committee, Building Leadership Teams, and Student Outcomes and Communication work groups, stakeholders were offered the opportunity to engage in discussions related to the current state of teaching and learning and how current capacities could be cultivated to support the development of 21st century teaching and learning.

Further, PCG Education engaged in a review of District documents; conducted focus groups, interviews, and site visits; and disseminated data collection tools in the form of surveys, checklists, and profiles. By

using various data sources and providing stakeholders with multiple modes of voicing their respective visions for what 21st century teaching and learning should entail, PCG Education received a comprehensive picture of the District's aspirations for its students, staff, and community. The firm examined these multiple data sources for common and divergent ideas amongst stakeholders in order to guide the next phase of the project.

In **Phase Two**, professional staff and community members were recruited to participate in the work groups that had been established around the themes and priorities that emerged in Phase One of the project. The work groups and their related priorities included the following:

- The **Leadership Work Group** engaged in an examination of the ways in which the District should be structured to support its schools and educators and include them in the ongoing dialogue of school change.
- The **Student Outcomes Work Group** continued previous discussions related to what the expanded set of 21st century attributes and outcomes should include, and began to examine *how* students can demonstrate the identified attributes, as well as *what* teachers might do to support them.
- The **Instructional Design and Pedagogy Work Group** examined a variety of pathways and environments that foster mastery of student outcomes, including active learning environments, project-based learning, and the institution of authentic assessment practices.
- The **Professionalism Work Group** explored ways to shape expectations for teachers going forward and to more intentionally support educators in their professional growth.
- The **Learning Environments Work Group** considered how technology and community resources could more effectively be used to facilitate 21st century teaching and learning, as well as how schools and classrooms could be arranged to better serve its students and teachers.
- The **Communications and Messaging Work Group** reflected on the ways in which constituents could be supported to engage fully with MCPS.

Work groups were tasked with examining their related priorities, engaging in research and discussion, and identifying the necessary changes and considerations that are related to 21st century teaching and learning. Following their thorough examination of the themes and priorities, work groups submitted their respective lists of recommended changes and supporting materials for consideration and inclusion in the 21st century teaching and learning model. They also developed vision statements related to their area of focus that informed the creation of a unified vision of 21st century teaching and learning.

After engaging with the work groups' materials, an Action Planning Team was formed to identify existing gaps, combine related elements, and confirm that each change element was explicitly connected to what is known or understood about 21st century teaching and learning. Ultimately, the Team selected the change elements that constitute the District's 21st Century Model of Change. From the model, goal action maps were built so that the change elements might be realized. Specifically, the Action Planning Team established goal statements and determined what steps will need to be taken to enact the identified elements of change. Taken together, the change elements, the Model of Change, and the goal action maps have resulted in a final 21st Century Plan from which the District can work as it seeks to

enact its vision of 21st century teaching and learning. The following elements were included in the 21st Century Plan.

- An overall statement of purpose and vision for 21st teaching and learning
- A list of change elements and/or goals that are consistent with achieving the overall vision (i.e., the model for change)
- Student outcomes developed by MCPS
- Overall goals related to the selected change elements
- Rationales for the selection of the prioritized change elements
- The extent to which the emerging priorities are impacted by the selected change elements
- Action steps necessary for the realization of the goals
- Expected timelines for achieving the action steps
- Individual(s) responsible for ensuring that a given action step is executed
- Resources required for the execution of a given action step
- Recommended processes for action steps
- Measures of success
- The date at which progress towards realizing the goal will be reviewed
- A process for evaluating and revising action steps and goals

MCPS took significant measures to ensure that the 21st Century Plan is reflective of the needs and aspirations voiced by a variety of stakeholders, including staff, students, and the community-at-large. It is representative of the type of collective effort that the initiatives detailed in the goal action maps will require if the District is to succeed in sufficiently monitoring the progress of the initiatives, reevaluating and reconfiguring the initiatives as necessary, and ultimately creating the conditions for a more engaging learning environment that will better prepare the children of Missoula for college, career, and 21st century citizenship.

Appendix D. Executive Summary of *Phase 1* Report

Missoula County Public Schools (MCPS), through its *Forward Thinking, High Achieving: 21st Century Initiative*, is positioning its educational community to be among the best in the nation. MCPS seeks to create a more engaging learning environment and context that will better prepare the children of Missoula for the future. MCPS is using the contracted services of PCG Education to facilitate the development of the initiative's 21st Century Plan.

The process of developing the 21st Century Plan involves two phases.

Phase One: In the fall of 2010, PCG Education conducted extensive data collection and analysis to identify major themes and emerging priorities. The themes and emerging priorities are related to elements of a 21st century education, as well as to the District's capacity to undertake the initiative. Throughout the process, PCG Education worked in concert with MCPS to engage as many stakeholders as possible in discussions. The discussions provided the District with the opportunity to explore and develop a collective understanding of teaching and learning in the 21st century. MCPS closely examined the 4 Cs of teaching and learning: Communication, Collaboration, Critical Thinking, and Creativity and Innovation.¹⁰

Phase Two: Through a facilitated process, MCPS staff and community members will next review the data gathered in Phase One, determine District priorities, and ultimately develop a 21st Century Plan to address those priorities.

The outcome of this two-part process will be a 21st century teaching and learning plan that will guide MCPS as it further provides an exceptional education to all MCPS students.

Phase One. Data collection and analysis were carried out over a four-month period from September through December 2010. More than 700 people (students, teachers, staff, parents, community members, school administrators, and District administrators) participated in the data collection process. Sources of data for Phase One included the following.

Summary of Data Collection Instruments and Processes Missoula County Public Schools, Missoula, MT	
Data Collection Instruments and Processes	Total #
Individual Teacher Surveys	465
On-site School Visits	19
Focus Groups (District and Community)	42
Interviews (District and Community)	28
School Capacity Profiles	17
School Information Checklists	17
District Capacity Profile	1

¹⁰ The 4 Cs were developed by the *Partnership for 21st Century Skills*, an organization that advocates for 21st century readiness for each student, specifically for their ability to communicate, collaborate, think critically, and create.

Strengths. By many measures, MCPS schools are successful.

- Student performance has risen consistently on the Montana Comprehensive Assessment System Criterion Referenced Tests (MontCAS CRT).
- MCPS's high school dropout rate appears to be declining.
- The professional staff is established and committed to children's success.
- Both the professional staff and the Missoula community voice a willingness to shape a model of education that will help prepare students for the career and educational challenges of the 21st century.

Clearly the Missoula community supports and is committed to MCPS. Community members expressed excitement about a 21st century teaching and learning initiative and an interest in becoming more actively involved in the schools. Similarly, MCPS conveyed that the District welcomes the continued participation of the extended community in its schools.

Key Findings. Six major themes emerged from the data.

1. There is willingness within the District to pursue the *21st Century Initiative*, as well as a fundamental awareness of the critical components of 21st century teaching and learning (e.g., real world projects that promote the 4 Cs; student-centered, active learning environments; and integration of technology to support teaching and learning).
2. There is an appreciation of the fact that 21st century skills are multifaceted, that they include and extend beyond the traditional 3 Rs to embrace skills that are critical to success in school and the workplace (e.g., a problem-solving orientation, applied learning, personal responsibility).
3. There is an understanding within the District that current instructional practices emphasize student outcomes on standardized tests and demand instructional consistency that can be in conflict with the vision and purpose of 21st century teaching and learning.
4. There is a widespread perception throughout the District and the community that Missoula's educators are highly skilled professionals and must be supported in their professional growth.
5. There is an appreciation of the fact that learning can occur anywhere, anytime and should not be confined by either place or time (i.e., school buildings or the master schedule).
6. There is excitement that MCPS has the capacity and enthusiasm to create and communicate a 21st century teaching and learning plan that aligns with and supports other initiatives in the District.

Each of the themes suggests areas for further study and consideration in Phase Two of this project.

Phase Two. The second phase of this project was initiated in January 2011 and will be completed in June 2011. In this phase, the data from Phase One will be reviewed and considered by the District leadership team and community work groups in a process that will:

- Define the conditions needed to establish 21st century teaching and learning more broadly in MCPS.
- Identify changes needed to more completely become a 21st century school district.
- Prioritize changes, identify action steps, and develop goal action maps for each priority area.

- Integrate this work into a 21st Century Plan that details how MCPS will enact its 21st century teaching and learning model.

The work of Phase Two will be reviewed, revised, and incorporated into a final 21st Century Plan that will delineate action steps, responsibilities, and timelines that will realize the District's vision.

The 21st Century Plan will serve as Missoula County Public Schools' road map as it implements a 21st century teaching and learning initiative that will prepare all of the children of Missoula to be lifelong learners, skilled employees, and active contributors in an ever-changing world.

Appendix E. Student Outcomes

Table E1. Dimensions of a Student			
Lifelong Learning Skills	Conceptual Base	Community and Citizenship	Career Development
<ul style="list-style-type: none"> Ask questions and seek knowledge through deliberate, reasoned inquiry. 	<ul style="list-style-type: none"> Subject Knowledge: <ul style="list-style-type: none"> Content Standards Process Standards 	<ul style="list-style-type: none"> Plan and do community service learning projects. 	<ul style="list-style-type: none"> Explore career interests through internships.
<ul style="list-style-type: none"> <i>Creativity & Innovation:</i> Imagine, ponder, generate & explore new ideas. 	<ul style="list-style-type: none"> Connective Literacies: <ul style="list-style-type: none"> Financial Environmental Technological Cultural/Ethical Physical & Emotional Health 	<ul style="list-style-type: none"> Collaborate with diverse groups and individuals. 	<ul style="list-style-type: none"> Complete professionally-mentored projects.
<ul style="list-style-type: none"> <i>Critical Thinking:</i> Evaluate assumptions and facts, recognize diverse viewpoints. 	<ul style="list-style-type: none"> Develop conceptual understanding and explore relevance of academic areas through student-centered projects. 	<ul style="list-style-type: none"> Give and receive constructive feedback. 	<ul style="list-style-type: none"> Exhibit attention and responsibility.
<ul style="list-style-type: none"> <i>Problem Solving:</i> Work individually and in groups to examine facts, define needs, and apply knowledge to develop, implement, and evaluate solutions. 	<ul style="list-style-type: none"> Demonstrate content area knowledge and skills through independent work. 	<ul style="list-style-type: none"> Develop understanding of global issues. 	<ul style="list-style-type: none"> Demonstrate competency in product-based assessments.
<ul style="list-style-type: none"> <i>Communication:</i> Express oneself effectively in written and verbal form, and use networking technology. 	<ul style="list-style-type: none"> Apply content area knowledge and skills to new situations. 	<ul style="list-style-type: none"> Recognize diverse values and cultural traditions. 	<ul style="list-style-type: none"> Exhibit professionalism in attitudes and conduct.
<ul style="list-style-type: none"> <i>Collaboration:</i> Work in diverse teams and groups to generate understanding & achieve shared goals. 	<ul style="list-style-type: none"> Make connections between subject areas. 	<ul style="list-style-type: none"> Apply civic knowledge and demonstrate understanding of local government by engaging with civic processes. 	<ul style="list-style-type: none"> Display appropriate social skills.

Table E1. Dimensions of a Student			
Lifelong Learning Skills	Conceptual Base	Community and Citizenship	Career Development
<ul style="list-style-type: none"> • <i>Reflection and Self-awareness:</i> Identify strengths and weaknesses, and areas for improvement. 	<ul style="list-style-type: none"> • Demonstrate competency in connective literacies through independent and collaborative products or projects. 	<ul style="list-style-type: none"> • Research controversial issues and form opinions. 	<ul style="list-style-type: none"> • Apply knowledge and skills in real world contexts.
<ul style="list-style-type: none"> • Seek excellence. 	<ul style="list-style-type: none"> • Seek knowledge through individual study and collaborative inquiry. 	<ul style="list-style-type: none"> • Explore, discuss, and take positions on multi-faceted issues. 	<ul style="list-style-type: none"> • Complete tasks with attention to detail and quality of work.
<ul style="list-style-type: none"> • <i>Independence & Self-Reliance:</i> Be a self-starter, recognize opportunities, and take initiative. 	<ul style="list-style-type: none"> • Use technology to learn. 	<ul style="list-style-type: none"> • Apply inclusive framework for problem solving. 	<ul style="list-style-type: none"> • Cooperate and communicate effectively with others.
<ul style="list-style-type: none"> • Take ownership of actions and influence on others. 	<ul style="list-style-type: none"> • Complete an in-depth study in an interest area. 	<ul style="list-style-type: none"> • Recognize ethical aspects of decisions and actions. 	<ul style="list-style-type: none"> • Demonstrate punctuality and ability to meet deadlines.
<ul style="list-style-type: none"> • Pursue ideas and interests with passion. 		<ul style="list-style-type: none"> • Exhibit citizenship at classroom, school, and community levels. 	
		<ul style="list-style-type: none"> • Act responsibly with regard to health and safety of self and others. 	

Table E2. 21st Century Outcomes and Teacher Facilitation Model
Expectations for Student Learning and Instructor Facilitation

Creativity and Innovation What Students Do:	What Teachers Do:
<ul style="list-style-type: none"> • I think divergently; outside the box. 	<ul style="list-style-type: none"> • I pose open-ended questions connected to big ideas.
<ul style="list-style-type: none"> • I ponder and formulate open-ended questions connected to big ideas. 	<ul style="list-style-type: none"> • I trust students, allowing them to take educationally appropriate risks to enhance their learning experience.
<ul style="list-style-type: none"> • I contemplate and make connections between seemingly unrelated content, problems or disciplines; develop new understanding. 	<ul style="list-style-type: none"> • I provide a safe learning environment, both emotionally and physically.
<ul style="list-style-type: none"> • I take task-appropriate risks; offer ideas, test new strategies, take positions. 	<ul style="list-style-type: none"> • I can cope with ambiguity.
<ul style="list-style-type: none"> • I develop new understanding, ways of knowing, and ways to show what I know. 	<ul style="list-style-type: none"> • I allow students to develop open ended projects of their own design.
<ul style="list-style-type: none"> • I engage in projects for which there are no clear and established pathways to success. 	<ul style="list-style-type: none"> • I support depth-of-study versus coverage-of-content.
<ul style="list-style-type: none"> • I generate tentative ideas and strategies to address open-ended questions and challenges. 	<ul style="list-style-type: none"> • I support students by asking questions to stretch their thinking.
<ul style="list-style-type: none"> • I learn from mistakes and recognize the value of eliminating or refining unsuccessful strategies. 	<ul style="list-style-type: none"> • I allow extensive student choice.
<ul style="list-style-type: none"> • I explore tools, materials, and diverse resources to ponder versatility of applications and construct new forms. 	<ul style="list-style-type: none"> • I provide tools, materials, and diverse resources for creative exploration.
<ul style="list-style-type: none"> • I compose and construct original works, including artistic, practical, and academic. 	<ul style="list-style-type: none"> • I recognize the value of creative time and provide flexible scheduling to accommodate in-depth learning opportunities when possible.
<ul style="list-style-type: none"> • I reflect on my abilities and products in order to improve and challenge myself. 	<ul style="list-style-type: none"> • I encourage students' originality, to strengthen self-confidence and self-efficacy.
	<ul style="list-style-type: none"> • I encourage positive feedback and constructive criticism among students.
	<ul style="list-style-type: none"> • I provide meaningful, detailed, and specific feedback and authentic assessment of student products and projects, including rubrics, portfolios, presentations, and community and professional feedback.
	<ul style="list-style-type: none"> • I provide opportunities to perform, display, or publicly share student work.

Table E2. 21st Century Outcomes and Teacher Facilitation Model <i>Expectations for Student Learning and Instructor Facilitation</i>	
Critical Thinking and Problem Solving	
What Students Do:	What Teachers Do:
<ul style="list-style-type: none"> • I pose questions and define problems, both independently and in collaborative inquiry. 	<ul style="list-style-type: none"> • I expose students to many divergent points of view, perspectives, and arguments.
<ul style="list-style-type: none"> • I examine multiple perspectives; explore connections between divergent ideas. 	<ul style="list-style-type: none"> • I allow students to uncover contradictions through inquiry (define problems).
<ul style="list-style-type: none"> • I consider intentions or purpose of authors or sources of information. 	<ul style="list-style-type: none"> • I practice and demonstrate critical literacy daily.
<ul style="list-style-type: none"> • I can identify assumptions, examine facts, evaluate evidence, and form opinions. 	<ul style="list-style-type: none"> • I expose perspectives and points of view in all common class materials.
<ul style="list-style-type: none"> • I observe, hypothesize, and determine variables. 	<ul style="list-style-type: none"> • I pose questions and facilitate discussions about the intentions of authors or producers of media.
<ul style="list-style-type: none"> • I engage in research projects involving careful observation, measurement, and experimentation, and reflection with qualitative and quantitative data. 	<ul style="list-style-type: none"> • I encourage students to design original research projects to explore their interests and questions.
<ul style="list-style-type: none"> • I analyze situations to clarify questions and knowledge needs; I can identify and access diverse knowledge and information resources. 	<ul style="list-style-type: none"> • I provide daily opportunities for collaborative inquiry to promote positive intellectual habits that will prepare students for constructive cooperation on shared questions and problems.
<ul style="list-style-type: none"> • I apply knowledge and skills to new situations. 	<ul style="list-style-type: none"> • I develop activities that illustrate value of diversity as a resource for understanding and solving problems.
<ul style="list-style-type: none"> • I study how things change over time. 	<ul style="list-style-type: none"> • I provide access to diverse types of information resources, including people, texts, digital, online, direct observation, etc.
<ul style="list-style-type: none"> • I develop, implement, and evaluate solutions to open-ended problems; I refine and improve solutions. 	
<ul style="list-style-type: none"> • I engage in collaborative inquiry to enhance problem solving resources; more minds are better than one. 	
<ul style="list-style-type: none"> • I face unexpected difficulties and develop strategies to overcome them. 	
<ul style="list-style-type: none"> • I collaborate with others across cultures and disciplines to address real-world problems; I can use networking technologies. 	

Table E2. 21st Century Outcomes and Teacher Facilitation Model
Expectations for Student Learning and Instructor Facilitation

Communication What Students Do:	What Teachers Do:
<ul style="list-style-type: none"> I write every day for a wide variety of purposes and audiences on increasingly divergent topics. 	<ul style="list-style-type: none"> I require writing each day in three contexts—writer's workshop, exploratory, and writing to learn.
<ul style="list-style-type: none"> I talk in class on compelling topics to partners, small groups, and the entire class. 	<ul style="list-style-type: none"> I promote extensive small group and partner work to increase the amount of student discourse (oral) in daily classroom activities.
<ul style="list-style-type: none"> I respond with clarity to requests for information, or demonstration of understanding orally, in writing and employing media. 	<ul style="list-style-type: none"> I establish class norms from K-12 where students experience daily demands to speak and/or write with clarity to show what they understand.
<ul style="list-style-type: none"> I develop media that tells great stories or elaborates on great arguments. 	<ul style="list-style-type: none"> I encourage students to take the lead in classroom discussions and talk more than teachers.
<ul style="list-style-type: none"> I demonstrate understanding of content area knowledge by explaining ideas and understandings to peers and teachers. 	<ul style="list-style-type: none"> I question more than lecture.
<ul style="list-style-type: none"> I practice and develop skills of constructive discourse in diverse contexts by collaborating with others in joint inquiry and team projects, including remote or international partnerships. 	<ul style="list-style-type: none"> I observe and listen to student discourse for formative assessment of students' conceptual understanding.
<ul style="list-style-type: none"> I express ideas and articulate reasons behind these, both orally and in writing. 	<ul style="list-style-type: none"> I provide opportunities for students to discuss and critique both exemplary and problematic samples of expressive products and activities.
<ul style="list-style-type: none"> I present ideas in multiple forms, including multi-media, technology, and public presentations. 	<ul style="list-style-type: none"> I pose open-ended questions that encourage students to explore big ideas and engage with divergent perspectives.
<ul style="list-style-type: none"> I acquire a second language and practice the art of translation. 	<ul style="list-style-type: none"> I collaborate with diverse faculty and community members to support inter-disciplinary and cross-cultural learning opportunities.
<ul style="list-style-type: none"> I demonstrate an understanding of audiences by communicating appropriately. 	<ul style="list-style-type: none"> I provide access to networking technologies that enhance development of communication skills.
<ul style="list-style-type: none"> I speak and listen carefully, asking good questions. 	

Table E2. 21st Century Outcomes and Teacher Facilitation Model <i>Expectations for Student Learning and Instructor Facilitation</i>	
Collaboration What Students Do:	What Teachers Do:
<ul style="list-style-type: none"> • I work as a cooperative participant in small groups, pairs, and large groups to accomplish complex tasks, develop products, or performances. 	<ul style="list-style-type: none"> • I organize physical and cyber-space for collaboration, small group and partner work
<ul style="list-style-type: none"> • I commit and contribute to task completion by using my strengths for the better of the group, while through the support of my peers, I continue to improve areas of weakness. 	<ul style="list-style-type: none"> • I create work norms that support interpersonal and cross cultural skills, with inclusive membership, participation and sense of group identity.
<ul style="list-style-type: none"> • I develop self awareness and awareness of others, and cultivate interpersonal and cross-cultural skills by working with all classmates in ways that support full participation. 	<ul style="list-style-type: none"> • I mix it up, all the time.
<ul style="list-style-type: none"> • I communicate effectively with peers to plan and coordinate tasks. 	<ul style="list-style-type: none"> • I promote a classroom structure where students lead from the center.
<ul style="list-style-type: none"> • I use collaborative inquiry as a learning strategy to acquire knowledge and explore ideas from multiple perspectives. 	<ul style="list-style-type: none"> • I model respect for diversity and equity of participation facilitation skills – daily.
<ul style="list-style-type: none"> • I engage with others on project teams that include diverse cultures, ages, abilities, and subject areas. 	<ul style="list-style-type: none"> • I develop strategies to stretch students beyond their current comfort zones (shy ones lead, leaders support and follow).
<ul style="list-style-type: none"> • I utilize networking technologies to enable collaboration with remote or international partners. 	<ul style="list-style-type: none"> • I encourage students to reflect and develop guidelines for successful collaboration.
<ul style="list-style-type: none"> • I consider social issues and challenges of working together. 	<ul style="list-style-type: none"> • I guide students to develop their own strategies for dealing with and resolving conflicts.
<ul style="list-style-type: none"> • I explore ethics and community responsibility in the context of collaborative projects. 	<ul style="list-style-type: none"> • I allow student teams to formulate and implement service learning projects; I facilitate these by supporting student-led efforts.
<ul style="list-style-type: none"> • I plan and develop independent projects. 	<ul style="list-style-type: none"> • I recognize others as potential sources of knowledge and feedback.
<ul style="list-style-type: none"> • I recognize others as potential sources of knowledge and feedback. 	<ul style="list-style-type: none"> • I recognize students and colleagues as potential sources of knowledge and feedback.

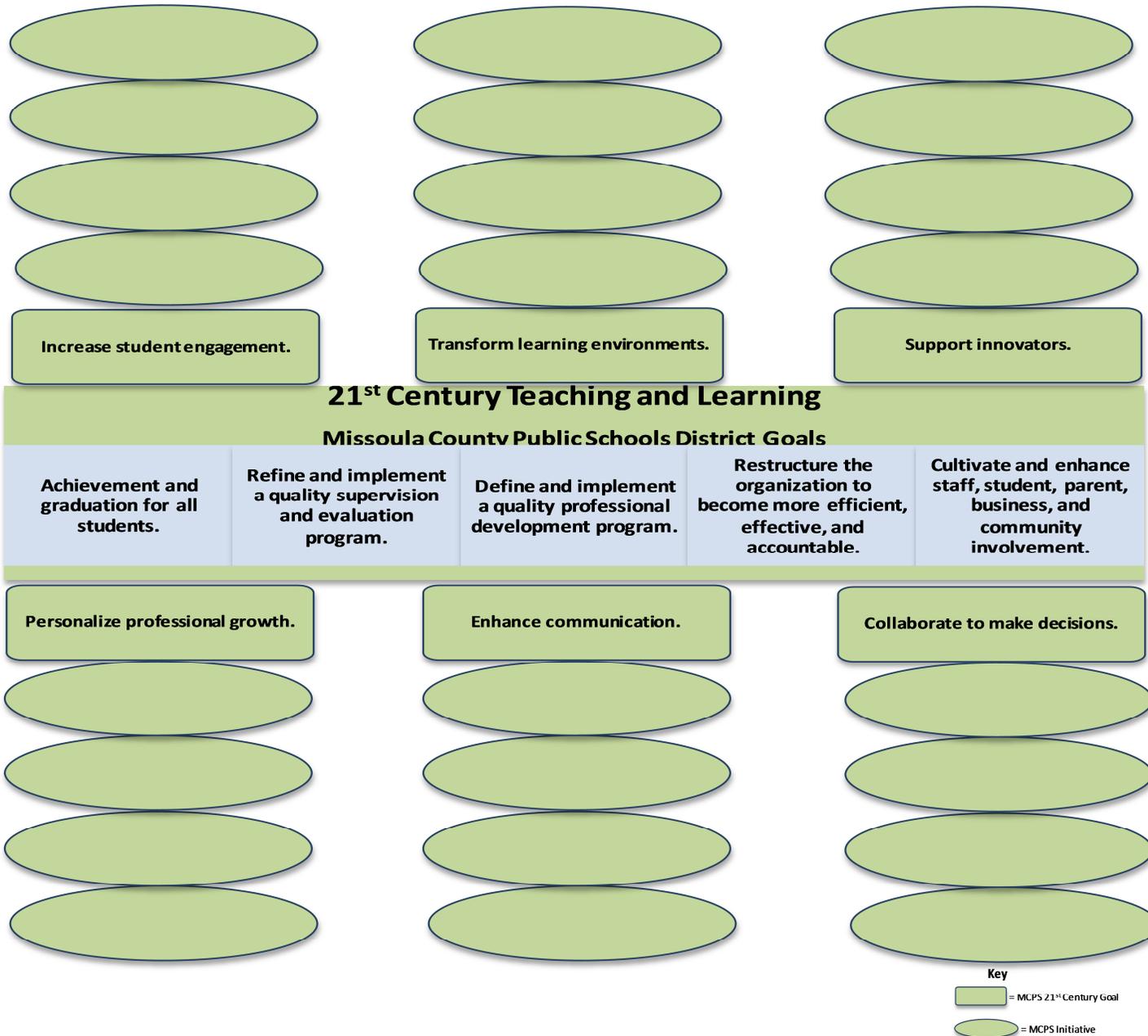
Appendix F. Roadmap's Alignment with District Initiatives

One of the primary means of sustaining a plan's momentum is explicitly connecting the plan to other school-based initiatives. School personnel contend with many initiatives that often result in disparate or even competing priorities. Initiatives frequently are developed by independent agencies and departments, mirroring one another and the goals they advance, and would be much improved if consolidated.

The Action Planning Team recognized the need for the *21st Century Initiative* and its corresponding goals to augment established District priorities and rightly acknowledge past and current efforts of MCPS; therefore, each 21st century goal is linked explicitly to at least one of the five District goals.

The template on the following page asks District personnel to consider how existing initiatives, policies, and mandates support the six goals of the *21st Century Initiative* and the five District goals. In completing this template, stakeholders should ask: *How are existing initiatives supporting the 21st century goals?*

When a strong link cannot be drawn between a given initiative and a 21st century goal, the initiative needs to be carefully re-examined, evaluated, and reconfigured or eliminated accordingly.



Appendix G. Communicating the 21st Century Plan

While ensuring a sense of transparency and pursuing ongoing communication among all constituents is part of the overall plan, there are several other considerations for communicating the plan. The following are suggestions for making sure the plan is communicated, enacted, and followed.

- 1. Make certain that the plan is a public plan.** This plan was developed in collaboration with many different constituencies. MCPS should maintain that level of joint participation. MCPS should ensure that the plan is available in both new and old media (e.g., print and electronic).
- 2. Communicate and report on progress.** MCPS should use electronic media to keep constituents informed about current developments, as well as regularly hold community forums and provide monthly updates to the MCPS Board of Trustees.
- 3. Support school-based action planning.** As represented in the goal action maps, MCPS is already making time available to ensure that school-based teams can pursue 21st century goals.
- 4. Solicit family and community involvement.** MCPS can work closely with families and the community as allies and partners in pursuit of 21st century practices. One point of this project is to close the distance between the education institution and its community.
- 5. Connect the plan to other school-based initiatives.** As described in *Appendix F. Roadmap's Alignment with District Initiatives*, MCPS needs to examine the link between current initiatives and its 21st century goals. By engaging stakeholders in discussions related to the extent to which a given initiative supports the 21st century goals, a greater number of people become conversant in the 21st Century Plan. Taking time to make the link between the 21st century goals and existing District operatives, the 21st Century Plan becomes more deeply embedded within the District.

The template that follows will serve as a planning tool as MCPS and its Director of Public Affairs prepare to communicate the 21st Century Plan to its various stakeholders. Through the use of this template, the District can be intentional about how it communicates the plan and determine the tools, methods, and venues that are appropriate for each given stakeholder group.

Audience	Desired Outcome	Communication Tool(s)	Method(s)	Venue(s)	Timeframe
EXAMPLE: All MCPS educators	Commencement event that generates excitement and an opportunity for collaboration	Email, principals, and web tools will be used to publicize the commencement event Commencement event	Large group presentation followed by small break-out groups for preparing and advancing the 21 st Century Initiative	Site large enough for all staff	August 2011

Adapted from: National Association of Independent Schools (2007). The Strategic Process: 10 Steps for Planning your Independent School's Future.

Appendix H. Progress Monitoring

Progress monitoring is critical to ensuring the ultimate success of an action plan. By regularly reviewing the state of implementation, both fidelity of implementation and achievement of intermediate outcomes may be ascertained. Based upon the review, necessary alterations can be made and next steps can be detailed so that the District is able to continue on its positive trajectory of change.

The guiding questions below are designed for individuals to answer and then share with one another so that all staff may expand and enhance their practices. The goal is to explore one's own practices and then work collaboratively with colleagues to solve problems. By exploring the reflections to these questions on a regular basis (e.g., monthly), teams of early innovators and other interested staff can engage in continuous inquiry and work toward improving their practices.

Progress Monitoring Guiding Questions

21st Century Teaching and Learning Goal Being Discussed:

1. Describe the tasks you accomplished that have contributed in positive ways to the advancement of the 21st century goal and its related action steps. What measures of success have you contributed to?

2. In what ways did your unique approach contribute to progress toward (or attainment of) these measures of success? Which of these would you share with others?

3. How have you worked with others (e.g., colleagues, community members, students) to move the goal and its related action steps forward?

Appendix I. School Self-Assessment

The ***School Self-Assessment Rubric*** should be used by schools to review their progress toward the District's 21st century goals. Each school should configure a representative group (e.g., Building Leadership Team; combined group of early innovators, staff piloting some 21st century practices, and non-participants) to collaboratively complete the rubric. By forming a mixed group, a school can construct a comprehensive picture of its progress related toward achieving each goal.

The rubric is designed to affirm a school's progress from "Limited" to "Exemplary" levels of implementation. By discussing where a given school is on the continuum, school leaders are better prepared to participate in site-based action planning, using the results of the self-assessment to specify where additional efforts and resources must be applied to advance the District goals. Aggregating the results of each school's self-assessment, the District will have data to inform its annual reexamination of the 21st Century Plan.

Guidelines for Use

1. There are no "right" answers.
2. To appreciate change over time, administer self-assessment twice per year and reflect on the steps taken that have helped propel the work forward.
3. Individuals should complete the rubric with their impression of progress and should point to specific evidence.
4. Teams should discuss individuals' ratings and build a summary rubric form that serves as the aggregated self-assessment. Keep in mind Guideline 1.
5. Teams should build understandings about how different views are represented.
6. Teams should discuss what next steps would help to move the work forward.

School Self-Assessment Rubric

Rating Scale:

- **Level 1: Limited Levels of Implementation** No evidence of practice with some evidence of preparation to apply practices. Educators are still researching and working with their school/district administrators toward the establishment of enabling conditions (e.g., allocating time).
- **Level 2: Early Implementation** Some evidence that a limited number of educators are experimenting with practices described in the goal's action steps. They are developing competence in areas of 21st century teaching and learning.
- **Level 3: Strong Implementation** Strong evidence that many educators are regularly pursuing this goal. They demonstrate growing competence and confidence, an ability and willingness to provide their colleagues with support, and the capacity to engage in continuous inquiry.
- **Level 4: Exemplary Implementation** The majority of educators regularly engage others (e.g., colleagues, students, community-at-large) to support their pursuit of these goals and seek feedback from outside the building on ways in which they might improve.

Rating Scale: Level 1 = Limited Levels of Implementation (Not yet started, preparing to apply practices)
Level 2 = Early Implementation (Experimenting, but not yet confident)
Level 3 = Strong Implementation (Regularly practicing and experimenting to make improvements, in a position to help others)
Level 4 = Exemplary Implementation (High degree of confidence, regularly improving)

MCPS 21 st Century Teaching and Learning Goal	Rating	What is evidence of progress?	What will I do next to further advance this goal?
<p>1. Increase student engagement.</p>			
<p>2. Transform learning environments.</p>			
<p>3. Support innovators.</p>			

Rating Scale: Level 1 = Limited Levels of Implementation (Not yet started, preparing to apply practices)
Level 2 = Early Implementation (Experimenting, but not yet confident)
Level 3 = Strong Implementation (Regularly practicing and experimenting to make improvements, in a position to help others)
Level 4 = Exemplary Implementation (High degree of confidence, regularly improving)

MCPS 21 st Century Teaching and Learning Goal	Rating	What is evidence of progress?	What will I do next to further advance this goal?
<p>4. Personalize professional growth.</p>			
<p>5. Enhance communication.</p>			
<p>6. Collaborate to make decisions.</p>			

Appendix J. What Does This Mean for Me?

The action steps in the goal action maps are designed to foster changes in behaviors that will bring about the desired goal. It is important to reflect and establish what the desired goals mean to individuals. The following guiding questions will help educators, students, and community members determine what they may do individually, and in partnership with other stakeholders, to foster the attainment of 21st century teaching and learning goals. Each stakeholder has the capacity to advance the initiative’s goals by asking: *What does this mean for me?*

Prior to Implementing the Goal

Goal:	
Guiding Questions	Reflection and Next Steps
1. What do I need to know to fully understand the goal?	
2. What practices will I change to support the attainment of the goal?	
3. How will I collaborate with other stakeholders to support the attainment of the goal?	

Throughout the implementation of the goal's associated action steps, all stakeholders should engage in a continuous cycle of inquiry and reflection to determine what they may do individually, and in partnership with other stakeholders, to move the goal forward to a greater extent. Each should regularly ask: *What has this meant for me?*

During and After Implementing a Goal

Goal:	
Guiding Questions	Reflection and Next Steps
1. How have I contributed to the advancement of the goal? What were the successes and the challenges?	
2. How have I collaborated with other stakeholders to support the advancement of the goal? What were the successes and the challenges?	
3. What are additional steps I can take to support the attainment of the goal?	

Appendix K. Participants and Contributions

The *21st Century Initiative* has recognized that stakeholder involvement is critical to ensuring that the 21st Century Plan and its representative change elements are reflective of the needs of Missoula's students. The stakeholders have proved themselves engaged and capable participants at every stage of the process, as evidenced by their involvement in the community forums, contributions to the data collection effort, and membership in work groups. Participants and their contributions have included:

- **Project Leadership Team:** The Project Leadership Team provides overall sponsorship and vision for the project. The Team has worked closely with PCG to define the overall goals of the *21st Century Initiative*, provide contextual information related to the District, and support the planning effort. The members of the Project Leadership Team have also been deeply involved in the data collection effort, work of the work groups, and the development of the goal action maps.
- **Steering Committee:** The Steering Committee is drawn from multiple domains and includes administrators; teachers; business, community, and civic leaders; parents; and students. Steering committee meetings were used to build participants' knowledge related to 21st century teaching and learning, as well as to provide members with a forum for voicing their ideas related to what constitutes a 21st century teaching and learning environment and how best to meet the needs of Missoula's students. Steering Committee members also served on the work groups.
- **Building Leadership Teams:** Building Leadership Teams were formed at each school and include principals, teachers, and staff. Each school's Building Leadership Team collaboratively completed a School Capacity Profile as part of the data collection effort, which provided teams with the opportunity to reflect upon current and desired practices related to 21st century teaching and learning. Following the work groups' presentation of the change elements, Building Leadership Teams were again convened to rank the work groups' goals and corresponding change elements, as well as provide additional comments related to omissions or further considerations.
- **Focus Group and Interview Participants:** Focus groups and interviews were convened during Phase One's data collection effort in order to provide a range of constituents the opportunity to define 21st century education, and the benefits that a 21st century education would have on Missoula's students. Twenty-four focus groups met during the site visits; 10 additional school-based focus groups met as well. Focus groups included:
 - Teacher/instructors (19)
 - Students (5)
 - Support staff (2)
 - Central administrators (1)
 - Counselors (1)
 - Feeder school principals (1)
 - GED students (1)
 - Parents/staff of gifted education students (1)
 - Parents/staff of special needs students (1)
 - Teacher librarians (1)

- Technical services staff (1)

An additional 18 focus groups were convened, as follows:

- Parents (2)
- Career/Technical Education Representatives (1)
- Community Leaders (1)
- Fine Art Representatives (1)
- Higher Education Representatives (1)
- Native American Representatives (1)
- Seeley Lake Community Members (1)

During the site visits, PCG Education conducted an interview with each of the principals and the director of the Lifelong Learning Center. Ten additional interviews were conducted with board members (4), elected officials (3), and community members (3).

- **Teachers:** Classroom teachers were provided with the opportunity to take an online survey related to teaching and learning practices relative to the core competencies of 21st century skills. The K—12 overall response rate was 82.89% (465 out of 561); the response rate for the K—5 survey was 78.43% (160/204), while the response rate for the 6—12 survey was 85.43% (305 out of 357).¹¹ These response rates indicate a high level of interest among teachers in describing their collective experience and sharing their vision for 21st century teaching and learning—an interest that should be capitalized on during the implementation phase of the 21st Century Plan.
- **Work Group Members:** The Student Outcomes work group was organized in the Fall of 2010 to develop a set of expanded student outcomes that reflect the skills and competencies necessary for a student to be successful in the 21st century. Five additional work groups (Leadership, Instructional Design and Pedagogy, Professionalism, Learning Environments, and Communications and Messaging) were established to address the priorities that emerged over the course of the data collection effort. Work groups included over 100 school, District, and community representatives who met on a weekly basis for the first two months of Phase Two. These work groups were tasked with using the expanded student outcomes as a lens with which to examine their related priorities, engaging in research and discussion, and submitting their respective lists of recommended changes.
- **Action Planning Team:** An Action Planning Team was formed to review the work groups' change elements, select the change elements that constitute that District's 21st Century Model of Change, and formulate goals based on the selected change elements. The Action Planning Team includes members of the Project Leadership Team, administrators and teachers who had previously participated in the Steering Committee or work groups, and additional District staff. The group was ultimately responsible for working with one another to develop goal action maps that detailed the steps that will need to be taken to enact the identified elements of change.

Table K1. Participants and Contributors lists the individuals who contributed to the *21st Century Initiative* by serving on the Project Leadership Team, Steering Committee, Building Leadership Teams, work groups, and/or the Action Planning Team.

¹¹ These response rates assume potential survey respondents were equal to the total number of teachers, as provided by the District.

Table K1. Participants and Contributors Missoula County Public Schools, Missoula, MT	
1. Addis, Carole; Teacher, Elementary School	2. Albrecht, Fran; Community Member
3. Allen, Karen; Executive Regional Director, Region 3	4. Anderson, Crista; Teacher, Elementary School
5. Anderson, Diane; Classified Staff, MMCEO Representative	6. Apostle, Alex P.; Superintendent
7. Archibald-Wilson, Suzette; Teacher, Elementary School	8. Bakke, Gary; Community Member
9. Ballou, Kathryn; Teacher, Middle School	10. Beatty, Michelle; Teacher, High School
11. Beckley, Patricia; Teacher, Elementary School	12. Bennett, Jane; Principal, High School
13. Bessette, Brian; Principal, Elementary School	14. Bingham, Don; Teacher, Title I, Elementary School
15. Bishop, Janice; Teacher/High School, MEA Representative	16. Blakely, Tom; Principal, High School
17. Blank, Lisa; Parent	18. Bolten, Tim; Teacher, Middle School
19. Bradford, Sue; Community Member, University of Montana COTA Representative	20. Brassfield, Lesli, Director of Public Affairs
21. Brown, Rae; Teacher, Elementary School	22. Burckhard, Julie; Teacher Librarian, High School
23. Burtch, Dave; Teacher, Career Education, High School	24. Butler, Kim; Teacher, Middle School
25. Buzzas, Rosie; Community Member	26. Cain, Kathleen; Teacher, Title I, Elementary School
27. Callahan, Sheila; Community Member	28. Campbell, Carol; Teacher, Elementary School
29. Chandler, Gail; Principal, Middle School	30. Charlson, Melanie; Teacher/Elementary Teacher, MEA Representative
31. Chook, Scott M.; Teacher, Middle School	32. Christensen, Cindy; Principal, Elementary School
33. Chumrau, Kelly; Principal, Elementary School	34. Clausen, Matt; Director of Creativity, Innovation and Technology
35. Cole, Beth; Teacher, Career Education, High	36. Combs, John; Fine Arts Supervisor

Table K1. Participants and Contributors	
Missoula County Public Schools, Missoula, MT	
School	
37. Cooper, Melissa; Teacher, Elementary School	38. Copley, Jennifer; Teacher, High School
39. Courtney, Jennifer; Teacher, High School	40. Cox, Becky; Teacher, Elementary School
41. Craton, Marie; Teacher, Special Education, Middle School	42. Crowley, Terry; Parent
43. Crowley, Tracy; Parent	44. Cunningham, Liz; Parent
45. Demmons, Seena; Instructional Specialist	46. Dirnberger, Kasey; Teacher, Middle School
47. Doyle, Sally; Classified Staff/Informational Systems Support Specialist	48. Dungan, Kathy; Teacher, Elementary School
49. Durbin, Kelley; Community Member	50. Elser, Tammy; Community Member
51. Farmer, Lynn; Assistant Principal, High School	52. Fee, Jeff; Community Member
53. Felton, Andrea; Teacher, Special Education, High School	54. Ferguson, Bonnie; Counselor, High School
55. Fischer, Joe; Teacher, High School	56. Fisher, Stacey; Teacher, Middle School
57. Fletcher, Russ; Community Member	58. Fogerty, Christine; Teacher Librarian, High School
59. Fortmann, Monique; Director of Adult Education	60. Fulbrook, Brandon; Student Representative
61. Gearheart, Bob; Assistant Principal, Middle School	62. Getz, Carla; Teacher, Middle School
63. Good, Barry; Community Member, University of Montana COTA Representative	64. Govertson, Elke; Parent
65. Grimaldi, Carolyn; Teacher, High School	66. Gross, Heidi; Teacher, Middle School
67. Hahn, Sidney; Teacher Librarian, Elementary School	68. Hainline, Julie; Curriculum, Title I Coordinator
69. Harrington, Webb; Principal, Elementary School	70. Harrison, Rosemary; Community Member
71. Hegedus, Janet; Teacher, Title I, High School	72. Helmer, Meleina; Teacher, High School
73. Hendrix, Lisa; Principal, Middle School	74. Herron, Bradford; Teacher, Middle School
75. Heyer, Doug; Counselor, Middle School	76. Hickey, Michael; Community Member

Table K1. Participants and Contributors Missoula County Public Schools, Missoula, MT	
77. Horejsi, Martin; Community Member, University of Montana Representative	78. Jarvis, Terry; Teacher, Title I, Middle School
79. Johnson, Paul; Principal, Middle School	80. Jones, David; Teacher, High School
81. Jones, Sharon; Teacher, Elementary School	82. Kaplan, Maeta; Teacher, Middle School
83. Keintz, Jennifer; Teacher, High School	84. Kennedy, Kathleen; Teacher, High School
85. Kirkland, Jack; Community Member	86. Koeppen, Lynn; Teacher, Elementary School
87. Kunkel, Ken; Classified Staff, PC/Network Technician/Helpdesk	88. Laboski, Trevor; Principal, High School
89. Larum, Nancy; Teacher, High School	90. Laslovich, Kacie; Teacher, Middle School
91. Leik, Thomas; Teacher, Career & Technical Education, High School	92. Line, Julie; Teacher, Elementary School
93. Lodge, Russ; Principal, High School	94. Loewenwarter, Maureen; Teacher, Elementary School
95. Lofthouse, Wendy; Teacher, Elementary School	96. Luck, Carla; Teacher, Elementary School
97. Lyndes, Mary; Teacher, Elementary School	98. Lynn, Melissa; Teacher, Elementary School
99. Mack, Amy; Teacher, High School	100. Malerk, Mary Pat; Teacher, Special Education, Middle School
101. Malouf, Michal; Teacher, High School	102. Mandala, Jason; Community Member
103. Marks, Nancy; Professional Development Coordinator	104. Martin, Greg; Parent
105. McCorkle, Shane; Teacher, High School	106. McDonald, Vicki; Community Member
107. McHugh, Pat; Director of Business and Operations	108. McHugh, Steve; Director of Human Resources
109. Meissner, Tiffany; Counselor, Elementary School	110. Merritt, Julie; Parent
111. Messerman, Craig; Teacher, High School	112. Michelson, Hailey; Student Representative
113. Miller, Kristine; Teacher, High School	114. Mooney, DeeAnn; Teacher, High School
115. Morrison, Dorothy; Teacher, Music, Elementary School	116. Murray, Gretchen; Teacher Librarian, Middle School

Table K1. Participants and Contributors Missoula County Public Schools, Missoula, MT	
117. Mutchler, Steve; Teacher, High School	118. Neiffer, Jason; Community Member
119. Newman, Hayley; Parent	120. Nile, Vanessa; Parent
121. Nisbet, Jamie; Teacher, Elementary School	122. Nokleby, Michele; Teacher Librarian, Elementary School
123. Norton, Molly; Teacher, Middle School	124. Notti, Melissa; Teacher, Elementary School
125. Nuttall, Robyn; Teacher, Title I, Middle School	126. Oliver, Libby; Teacher, High School
127. Painter, Sally; Parent	128. Petty, Margaret; Teacher, Elementary School
129. Pierpoint, Marta; Parent	130. Postma, Sheri; Classified Staff, Library Technician, MMCEO Representative
131. Quinlan, Matthew; Teacher, Title I, High School	132. Redfield, Sharon; Parent
133. Reed, Scott; Director of Operations and Maintenance	134. Rehbein, Toni; Chairperson, Board of Trustees
135. Reimers, Lois; Teacher, High School	136. Reschke, Tamra; Teacher, Elementary School
137. Rinehart, Charles; Teacher, High School	138. Riordan, Michele; Teacher, Elementary School
139. Ritchlin, Kevin; Teacher, High School	140. Rogers, Kristi; Teacher, Special Education
141. Rott, David; Principal, Elementary School, Middle School	142. Salmon, Nick; Community Member, Parent
143. Schmidt, Heather Davis; Curriculum, Title I Coordinator	144. Schuck, Catherine; Teacher, Elementary School
145. Schultz, Cindy; Teacher, Career Education, High School	146. Seidensticker, Jerry; Principal, Elementary School
147. Sharkey, Elizabeth; Teacher, Elementary School	148. Shattuck, Amy; Counselor, Elementary School
149. Shepherd, Nicholas; Teacher, Middle School	150. Sims, Linda; Classified Staff, Data Manager

Table K1. Participants and Contributors Missoula County Public Schools, Missoula, MT	
151. Smith, Dani; Teacher, Elementary School	152. Smith, Garth; Teacher, Middle School
153. Smith, Shirley; Parent	154. Solberg, Tyler; Teacher, Middle School
155. Sorenson, Becky; Principal, Elementary School	156. Stengel, Roberta; Executive Regional Director, Region 2
157. Stone, Mary; Teacher, High School	158. Stout, Katrina; Teacher Librarian, High School
159. Sturgis, Jack; Principal, Elementary School	160. Thane, Mark; Executive Regional Director, Region 1
161. Thao, Yer; Teacher, Elementary School	162. Thomas, Lisa; Teacher, Elementary School
163. Thorne, Catherine; Speech Language Pathologist	164. Traeder, Scott; Teacher, Career & Technical Education, High School
165. Umbaugh, Karen; Teacher, High School	166. Vaneps, Alanna; Teacher, Elementary School
167. Veech, Carrie; Parent	168. Waldum, Marit; Psychologist
169. Walker, Patricia; Teacher, Elementary School	170. Wallace, Vicki; Teacher, Middle School
171. Weasel, Glenda; Social Worker IEFA	172. Weinert, Jessica; Teacher, High School, Indian Education for All
173. White, Carol M; Special Education Supervisor	174. Whitlatch, Christine; Parent
175. Williams, Michael; Principal, Elementary School	176. Winn, Larena; Teacher, High School
177. Zins, Erica; Counselor, Elementary School	178. Zook, Anthony; Classified Staff, Informational Systems Support Specialist